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Thursday, October 7, 1982

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Logabax UK out of the red

by Kevin Cahill

AN enterprising management buy-out has converted loss-making Logabax UK into a profitable operation for the first half of this year.

The former subsidiary of the French company Logabax, itself the subject of a recent rescue operation, has turned a loss of £400,000 last year into a £150,000 profit for the first half of this year.

Paul Bion, managing director of Logabax UK, said the company had achieved the turnround without the aid of outside finance.

Bion and fellow directors Chandra Wirasinha and Bryan Senior own 100% of the shares.

Last year Logabax UK, which is changing its name to Technology For Business, had a turnover of £4 million. This year Bion says that turnover will be slightly less, but the company will make s profit.

Bion says many of the problems the company had when it was a Logabax subsidiary stemmed from trying to supply too wide a range of products at an entry price of £5,000 and below.

Bion has moved the company away from Logabax computers to become one of the biggest Systime OEMs. .

Although Technology For Business still supplies some Logabax printers and will be Logabax's representative in the UK, most of its products are from sources othcr than the former French parent.

The restructuring and transfer to new offices have produced a company with a staff of 63, compared with the 97 employed as a Logabax subsidiary.

Bion says that the move to UK sourcing has shielded the company from currency fluctuations, and given them a supplier who can easily be reached physically.

HARRISON . . . 1,250 visitors a day expected.

Racal in cellular radio consortium

by Donald Kennett

MARKETING deals with four US companies and more than 100 new products were the features of Racalex, Racal's ninth exhibitinn and symposium in London last week. And many major orders were announced.

A new company called Racal-Millicom has been formed with Millicom in the US, Comvick of Sweden, and Hamhros Bank to operate a cellular radio telephone service in the UK using Millicom equipment.

Racal also is to become the major internatiooal distributor of shipborne earth stations for marine satellite communications made by Comsat General Telesystems. They are designed for use with the Inmarsat communications system inaugurated in February.

Two US companies, California Micro Devices and Torrie, have signed franchises to design and market custom chips based on Racal's gate array technology. And in West Germany, a subsidiary has been set up to support similar activities in Europe.

The company had previously lined up a joint venture to develop and manufacture advanced CMOS devices with General Instrument Microelectronics and Leuven Research and Development in Belgium.

Racal chairman Sir Ernest Harrison announced that 1,250 visitors a day were expected at the exhibition with 750 coming from 90 overseas countries, while 4,000 planned to attend the 12 lecture sessions. That would make it the largest private demonstration of professional electronic equipment in the world.

Major orders highlighted at the show included US based Racal-Vadic's first sale to Australia for V22 full-duplex two-wire 1,200 bit/second modems. In the US it is developing modems for "telecommuting" by personal computer users. In the UK the first order for the recently launched Omnimode modem was for £300,000, while the Planet local area network has won £500,000 worth of orders since March.

The Department of Industry is to put £197,000 towards a £500,000 study Racal will make of the potential application of computing and electronics to reducing costs at sea. The study will investigate the possibility of integrating systems for voyage management, data communications, engine monitoring, cargo planning, and administration.

British Telecom has added orders for 1,000 of Racal's transaction telephones to its initial March order of 300. A prime motivator is the £12 million a year loss through fraud that the credit card companies make currently.

US govt clamp clears three in IBM secrets case

by Kevan Pearsoo and Howard Kartoo

A US judge last week dismissed charges against three men in the IBM secrets case because of a refusal by the government to reveal the exact relationship between IBM and the FBI.

In a separate hearing, a different judge dismissed a request by Hitachi for government documents relating to the case which it says it needs for its defence.

Following these decisions a hearing must oow be set up to establish what information is relevant to the case. The government argues that it has nothing to hide and will comply with the findings of the hearing.

The defence claims that the relatiooship between IBM and the FBI, which conducted the investigatioo, is central to the defence.

Judge Robert Aguilar dismissed charges against Raymond Cadet, and ex-IBM engineer Barry Saffaie, a former National Advanced Systems manager, and Tom Trihasson Ayazi "with prejudice". This means that the US government cannot reinstate the charges uoless Aguilar's decision is reversed in the US Court of Appeal

Aguilar ruled that the government was required to turn over to the court all documents it had to listing to the case in the interests of justice and "due process".

The government argued that the defence's request for information amounted to a "fishing expedition".

Meanwhile, Judge Spencer Williams quashed subpoenas issued by Hitachi's lawyers for government documents about IBM and its relationship with the consulting firm used in the arrest operation.

■ Leader page 13.

Japan set for next market attack

by Philip Hunter

WHILE the fifth generation of computers remains in embryo, Japan is about to make an immediate effort to seize more of the world's information technology market.

According to Mackintosh International consultancy, the authoritative electronics industry forecasters, this attack will be based on rapid development of custom-made integrated circuits, known as logic arrays.

Main-line integrated circuit makers will decline, says Mackintosh, with the trend being towards electronics companies frying their own chips, or at any rate having them custom-made.

The big Japanese companies are already heavily committed to logic arrays, says Mackintosh.

This opinion was hacked by Fujitsu director Yukimaro Kawatani in London last week, when he predicted enormous growth in Japan's semiconductor production.

Speaking at the Pergamon Infotech Fifth Generation Conference, he said that the dedication of Japanese workers was responsible for the supremacy of its semiconductor industry.

"We have not seen similar feedback from American employees at our semiconductor facilities io the US," he added.

Kawatani claimed that new features on the Fujitsu mainframe, the Facom M-382, made it the fastest general-purpose mainframe in the world. "That is a result of the manufacturing technology and reliability of semiconductors," he said.

Kawatani described a new kind of semiconductor discovered by Fujitsu, called HEMT, High Electron Mobility Transistor. HEMT has a comparable performance to the better known, but as yet unperfected Josephson Junction technology.

KAWATANI . . . Japanese workers more dedicated than Americans.

IT82 'moral victory'

by John Kavanagh

INFORMATION Technology Year staff won a moral victory in last week's dchate on a motion saying it failed to encourage an ergonomic approach to its subject. The challenge to the debate came from the Ergonomics Society and the two sides met on the society's home ground, the Ergonomics Unit at London's University College.

IT82 project manager Roy Dingle argued that the campaign's aim was to increase awareness of information technology, not spread the word about ergonomics. A Mori poll showed 98% of the population knew nothing about information technology, so IT82 had enough to do to meet its maio aim.

The result was a dead hest: 17 for and 17 against with 14 abstentions.

LINE NOISE

HONEYWELL, never far behind IBM in announcing large mainframes, will next week launch its new range code-named Orion, which the company says far exceeds the power and capacity of its largest existing systems. Honeywell regards this as one of the most important product launches in its history.

IBM has run into further difficulties with its own employees in Japan in the wake of the Japscam case. The president of the company there, A. M. Shima, is reported to have flown to the US in a rage to ask his erstwhile employers what they were doing. He was neither consulted nor informed on the moves in the US and was unable to comment when approached by the Japanese Prime Minister, who less than politely demanded an explanation for IBM's actions. Shima is still with IBM, but as one Japanese put it, minus much face. And on things Japanese, Hitachi is rumoured to be launching a huge drive on the micro market led by a television advertising campaign not dissimilar to the one IBM is currently running with Peter Ustinov in the starring role.

RUMOURS that a £6 million project to develop an Ada Programming Support Environment (Apse) will be announced in a week's time by the Ministry of Defence, the Departmeot of Industry and British Telecom are largely spurious. A source at one of the four companies chosen to co-operate on the Apse project – SPL, SDL, Software Sciences and ICL – says that a major project will indeed be announced soon. But we will not hear about it for at least a month, and it will involve considerably more than £6 million, which would be far from adequate, the source said.

NAS adds 3 models

by Kevan Pearson

NATIONAL Advanced Systems has added three new processors to its 9000 series of large-scale IBM compatible machines. The three processors overlap IBM's 3083 and 3081 ranges.

The first two models, the AS9040 and the AS9050, compete with IBM's 3083B and J models, at the top end of the range.

The AS9070, a tightly coupled dual processor system, is targeted to compete with IBM's 3081K. They replace the top end of the AS7000 series.

The company has also announced a new mid-range series, the 6630 and 6650 machines. These are aimed at the level above IBM's 4341 processors and offer a performanee improvement of about 50% over the 4341 Group 2, the most powerful machine in the 4300 range, according to John Clements, NAS European vice-president.

First deliveries of the machines will be phased over the next six to nine months' approximately in time with the first shipments of IBM's 3083 range.

NAS will support IBM's new operating regime, MVS/XA, on its 9000 series, including the new smaller machines. The company says it will deliver its MVS/XA support feature in the first quarter of 1984, 12 months after IBM begins normal ahipment of MVS/XA.

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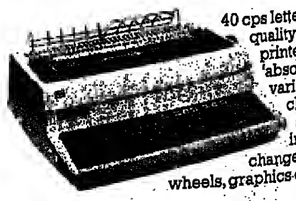

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Inmos crisis as govt says: No more cash

by Kevin Cahill

INMOS, the State-funded chip maker, is facing a major financial crisis following a governmeot refusal to find any more funds for the company.

Speaking to a Conservative Computer Forum at the Party's Brighton conference last week, Industry Minister Patrick Jenkin said, "Inmos has had £100 million of taxpayers' money, and no more is coming."

Inmos had accumulated start-up losses of £21.3 millioo to the end of last year, and expects to report further losses for the current financial year. It is uoderstood to be asking for an additional £10 million from the government to pay for next year's operations.

Last year the company, which has chip making plants in Colorado, and at Newport, Gwent, reported total turnover of £2.1 million and expects turnover of £10 million in the current year.

A few weeks ago Inmos announced that the company was deferring a ramp-up of its operations in Gwent, to what were referred to as "next year's planned levels of production."

Commentators saw this as an attempt by the compaoy to force the government to confirm further financial aid for Inmos.

The plan appears to have backfired, and Jeokin followed his "No more mooey" statement by remarks which bode ill for Inmos.

He said, "Inmos must go private."

The company has already tricd to do this in various ways, in the US last year and in the UK earlier this year. In both cases adequate private offers were not forthcoming.

The City in particular has looked sceptically at the estimates of funds needed, and some sources say that the £10 million requested is 300% short of what will be needed "unless there is an unforeseen turnround in Inmos volume and an earlier than anticipated move into profit."

According to Jenkin, ICL and Sinclair had been to see him, and told him that "We must have a chip industry."

Jenkin said he had told them that he hoped to get "investment for Inmos from companies like them."

In the case of ICL it is very unlikely that the company, still in the recovery phase from last year's losses, will be in aoy position to take on Inmos, even as a gift.

Nor does Clive Sinclair, with his penchant for small is beautiful, look like the putative boss and financier to an operation of Inmos' size.

The British Technology Group says that what is said at the Conservative Party conference is not "tablets of stone" and they would have to see a formal statement from the government.

A spokesman at Inmos said the company had not had £100 million of taxpayers' money. "So far we have had £50 million in equity investment from the BTG, and the remainder, which does not come in the form of investment, but as grants from the Department of Industry and the EEC, is nothing like £50 million."

JENKIN . . . "No more money is coming."

Alvey report calls for commercial exploiting of ideas

by Kevan Pearson

PUBLICATION of the Alvey Committee report has dispelled fears of a field-day for academics and that there would be little potential for commercial exploitation. But the debate has now switched to whether the government will ignore Alvey's recommendation for a substantial investment in "advanced information technology".

The committee called for sweeping changes in the way the UK computer and IT industries are run, with £350 million, up to 75% of it funded by the government, concentrated on four areas of IT. Central to the project would be early commercial exploitation of the ideas generated by the project.

"My main concero was that it would turn out to be a benefit match for the universities and large companies in terms of getting research funds for long-term projects," says Roger Graham, chairman of BIS. "It is important to get early commercial exploitation. We should not look to ape the Japanese in long-term projects with commercial results left to the end."

It is too early to assess the full reception of the report since it has not been widely circulated yet. Both the British Computer Society and the Computing Services Association are studying it, as are many of the leading industry companies.

Even before the report appeared, some UK companies – particularly in the software field – did not think it would go far enough. But there are already signs in Whitehall that the project might not go even as far the Committee recommends.

The call for up to £250 million of taxpayers' money is bound to cause a controversy.

The government, as told by Industry Secretary Patrick Jenkin at the Cooservative Party conference last week, is also to stop any more money going to Inmos, the British Technology Group's chip manufacturer (see story this page). This

■ Turn to page 4.

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BIS sells control to City investors

by Kevin Cahill

BUSINESS Intelligence Services, the London-based software consultancy and training group, has sold 56% of the company to private City investors for £5.7 million.

The move, which has been the subject of speculation for some time, will reduce staff and overseas investur participation in BIS from 100% to 44%.

The institutions which have bought the controlling shares in BIS are some of the most prestigious in the City and include merchant banks Baring Brothers, Schroder Wagg and Charterhouse Japhet and the C&A pension fund.

According to BIS chairman Brian Allison, the former investors will receive a reasonable return on their original investment and for their support of the company over the past 12 years.

BIS managing director Roger Graham says the company expects turnover of £20 million this year and profits of about 10% of sales.

GRAHAM . . . Expects turnover of £20m this year.

IBM Olympia range to make December debut?

by Kevan Pearson

IBM is expected to plug the gap between its low-end 308X and 4300 series machines soon, according to industry sources. Observers believe that IBM will announce a new range, code-named Olympia, in 1983, but the first machine could be announced as early as December 1982.

The first machine will be rated at 2.5 mips, neatly filling the gap between the 4341 model 2 at about 1.5 millioo instructions per second and the 3083B at 4 mips. The machine will probably support Extended Architecture; the 4300 series does not.

The timing of the announcement will depend on whether IBM perceives a need for the machine in terms of the offering of its competitors, and the likely impact on the 4341, which is still selling well.

The main competition at the moment comes from National Advanced Systems 6100 and 6600 series machines, both announced this year and which extend beyond the power of the 4300. But the extent to which this influences IBM'a launch decision will depend on how well these machines sell.

IBM bases most of its decisions on the US market, says Richard Imtershian, a vice-president of the US Gartner Group research agency. "NAS has been stronger in Europe than in the US," says Imiershian, "and a lot of whether IBM announces a new machine will depend on how rival machines sell."

The Olympia series is likely to extend up to 4 mips, putting it into direct competition with the 3083S. But it is likely that the new series will offer a lower price performanee ratio than the 3083 machines, which poses questions for the future of the more expensive alternative.

The 3083B is not scheduled for delivery until 1984, and IBM could be delivering Olympia series machines shortly afterwards, at a much lower price.

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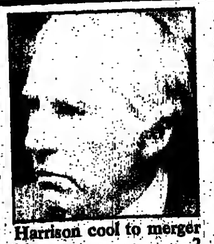

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'Software time bomb' fraud — Court allegation

by Philip Hunter

AN UNUSUAL fraud case in which a software house is accused of inserting a delayed-action bug into a package it developed for another systems house, is being heard at Chelmsford Crown Court.

Alan Philp of London-based software house Wynsana is defending charges brought by Chelmsford police that he inserted a "software time bomb" into a commercial package he was developing for the Bishop's Stortford systems house Peter Arundell.

The software was designed to run on a Systime 5000 computer under the RSTS/E operating system.

The court heard that the offending piece of software had caused the data files to corrupt when it was run after April 1, 1982. Philp agreed that the software bug had been inserted, but denied that he did it.

An independent consultant stated that the package which Wynsana was developing could only have been tampered with on three days when the programs were recompiled. Philp would have had to be at Arundell's premises at Bishop's Stortford on those days to perform the changes and he denies that he was there on any of the days in question.

Arundell gave evidence that Wynsana had promised to complete the system in six months, but had still not finished testing after 18 months. It then refused to make the final payment before system testing was complete.

Prosecuting counsel put two possible motives for Wynsana's alleged tampering. One was that Wynsana would have to be called in to mend the bugs and would therefore have extra work.

The other possible motive was that Wynsana could hold Arundell to ransom.

Philp ignored these accusations, and stuck to his story that he did no tampering.

The existence of the offending bug was noticed when the system was first run after April 1, when the disc pack would suddenly become corrupt. Arundell suspected a hardware fault, and called in Computer Field Maintenance to investigate.

CFM could find nothing wrong with the hardware, so its software expert Colin Stoneman checked the operating system.

"I couldn't find anything wrong with the operating system, and was in the process of getting another copy of the operating system to make sure when Arundell phoned and said 'Try running the system with systems date before April 1'.

"It then ran OK, but when the system date was after April 1, it crashed," Stoneman said.

Stoneman, and John Robinson of the independent consultancy Quantic, also called in to investigate, then found some suspect code. "It checked the system date, and after that date opened a file that corrupted everything," says Stoneman.

Systems analysts lag in pay rises

by Donald Kennett

SYSTEMS analysts lagged noticeably behind their data processing colleagues in salary increases during the last year, according to the 21st survey of executive salaries conducted by London-based management consultancy Inbucon.

With increases averaging 7.4%, they were the only group of data processing people who failed to keep up with inflation. Their salaries ranged from an average of £9,340 in companies that turned over between £5 million and £10 million to an average of £10,173 in companies that turned over more than £500 million.

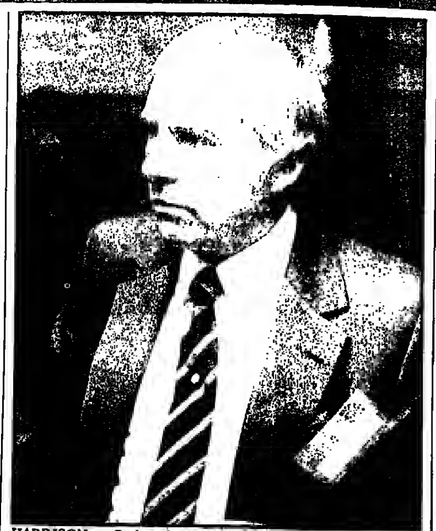
Operators, the lowest paid group, did a bit of catching up, with increases averaging 13.2% for senior operators and 12.8% for operators, which can be set against the 8.7% rate of inflation from July 1981 to July 1982. The salaries for the two groups averaged from £6,191 to £7,069 and from £5,152 to £6,658.

The £100 Inbucon report is based on responses from 555 companies in 26 industries, mostly in the private sector. The data processing section is the only one which deals with personnel other than executives, but it does not necessarily reflect the position outside manufacturing industry.

Salary surveys manager Nigel Bryant said this year's survey showed a modest real gain being made overall, compared with last year's higher average increase of 12%, which nevertheless ended up less than inflation after taking tax into account.

The programmers' average salary gain of 12.6% was near the top of the league. Their salaries averaged from £8,456 in the smaller companies to £10,362 in the larger.

Heads of DP salaries ranged from £11,511 in the smaller companies to £23,351 in the larger. The top DP salary was over £29,000.



HARRISON . . . Cool reaction to merger idea.

Battered Quest in Racal merger talks

by Kevin Cahill

QUEST finally revealed its much delayed results last week and they showed a loss for the year ended February 1982 of £2.86 million. The Dorset company, one of the UK's leading CAD/CAM suppliers and manufacturers, made a profit in the previous year of £810,000.

Amid rumours that the BTG, which has a substantial stake in Quest, is trying to merge at least part of Quest with Racal's CAD/CAM subsidiary, Racal Redac, the Quest directors say that turnover this year, particularly for CAD, has reached a record level.

Tony Ebel, the Quest managing director, added that the company continued to experience difficult trading in the first half of this year, but was now trading profitably.

Earlier this year Ebel admitted that the Quest 4000, a 16-bit minicomputer developed with the aid of substantial BTG funds, was 50% below budget in terms of sales.

In the published accounts the company showed a drop in turnover from £10.55 million in 1980/81 to £10.14 million for 1981/82. R&D expenditure rose to £1.83 million, from £1.15 million in the previous year.

The BTG's enthusiasm for the merger does not appear to be reciprocated by either Quest or Racal. Quest said that talks about talks had taken place, and suggestions of a merger were at "a very preliminary stage."

Racal chairman Sir Ernest Harrison is known to have reacted coolly when City analysts put the suggestion of a merger to him earlier this year.

Urwick and BL to offer joint service

BL Systems and the Urwick group have joined forces to offer systems and consulting services in the computer-aided design and manufacturing areas, and robotics. The new service will be marketed in the UK and overseas.

BL Systems will contribute its CAD/CAM expertise gained on the Mini Metro production line.

Mail order buy

MICOM, the California-based company that single-handedly brought about a dramatic drop in the prices of statistical multiplexers, has bought Pittsburgh-based Expandor, a mail order company that specialises in data communications products selling for less than $1,000.

Cipher UK boost

THE US minicomputer back-up storage firm Cipher Data Products has upgraded its UK office to full subsidiary company. Cipher Data Products (UK), in Camberley, Surrey, is the European head quarters. Cipher is also forming subsidiaries in France and West Germany. The UK company is providing repair, spare parts, engineering support and training services.

Export award

SMALL UK companies which think big when it comes to exporting are invited to enter for the 1982/83 export award. The £3,000 award, aimed at companies with under 200 staff, is sponsored by the government and private industry. And in Information Technology Year, the Department of Industry is putting up a further £1,875 for the winners to buy a Prestel viewdata set. *Entry forms* can be had from British Overseas Trade Board offices, Thomas Cook travel shops and chambers of commerce.

Network system

THE 32-bit minicomputers made by Gould SEL Computer Systems can now run together in networks following the launch of the Selnet networking system in the UK. No changes are needed to operate systems. Selnet allows processors to share peripherals and provides access to X25 packet switching networks if needed.

Plessey deal

PLESSEY digital telephone exchanges are to be sold in Europe by Olteco, the communications arm of the Italian company Olivetti. The trading deal also allows Olteco to get the know-how to make the products in Italy. The Plessey exchanges, handling up to 200 subscribers, will complement Olteco's larger exchanges.

Into 3-D

A UK computer-aided design systems company, Engineering Computer Services, has moved up to three-dimensional systems with the launch of the Graftek 32 from a US firm, Graphics Technology.

BTG's 'lame duck' makes a profit

by Kevin Cahill

THE leading "lame duck" within the British Technology Group is now profitable. Data Recording Instruments, the Staines-based peripheral manufacturer wholly owned by BTG has just completed its third reorganisation in two-and-a-half years, and expects turnover for 1982/83 to be £45 million, compared with £32 million last year, according to managing director John Armstrong.

The target for the following year is £50 million, and Armstrong is confident that by 1986 the company will be doing £100 million of profitable business.

Last year the company made a loss of £10 million, mostly in starting up the Winsford-based operation United Peripherals Ltd, a joint venture with Control Data.

The rapid rise in turnover and the return to profit are the combined result of volume shipments of discs from UPL and a series of orders for DRI's new twin-head dot matrix printer.

The first shipments of the printers to New Jersey-based Decision Data were made last week.

Decision Data itself is 15% owned by DRI, which also holds warrants to buy a further 25% of Decision Data's shares.

According to Decision Data, the company has over 400 orders for the printer, and now that deliveries have started, it expects the order rate to rise.

The introduction of the printer via the new trading company Newbury Data Recording, represents a return by DRI to one of its original business lines. The new printer will be formally unveiled in the UK at Compec in November.

The company has also recently reorganised its Newbury VDU manufacturing. Volume shipments of IBM-compatible terminals have now reached 700 a month, with 28,000 units already installed.

The BTG expects the privatisation of DRI to begin within the next two years and Armstrong's efforts to make the company profitable are vital if this plan is to be feasible.

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ICL to wrap up its fifth generation in VME

by Kevin Cahill

ICL's VME, on the other hand, was introduced in the early '70s and incorporates as basic design features all the discoveries of the real time and virtual machine world.

The introduction of both IBM's MVS (OS) and ICL's VME was fraught with user difficulties.

Wilmot wryly acknowledged this when he said that VME had taken "eight years and cost £150 million and a fair few distressed customers" during its introduction.

According to Wilmot, the VME that ICL is now putting the final touches to will handle multiprocessor environments, including CAFS, ICL's hardware-based database machine.

Inside ICL, VME is being used to pilot remote diagnostics based on expert system techniques.

A further extension of VME is expected to run dual 2988s non-stop for 1,000 hours, in what Wilmot called a "non-intervention environment".

This implies that ICL will use the 2988 to directly attack the non-stop market pioneered by Tandem in the United States. The new 2988 product is expected to run for 10,000 hours without major break or overhaul, according to Wilmot.

On a slightly more futuristic note Wilmot said that VME would act as its own hypervisor.

He explained that a hypervisor meant a move away from the CME approach, which was to have CME to control VME and DME as systems separate from each other. In the next generation VME will be run "over the top".

This will allow the running of many different regimes under one operating system, including new logic languages such as Lisp and other directly interpretable fourth generation languages, Wilmot said.

Acting as its own high-level hypervisor (or supervisor) VME will run expert systems, multiprocessors, CAFS and common network and error management for several regimes.

While Wilmot indicated that VME would be taken down to the small machine level, he added that with the average size of a virtual machine at 20,000 instructions per second (Kips), VME would probably go down to a four or five user rather than a single user system.

For existing users of the old 1900 DME system, ICL will be putting on a roadshow after Christmas to help with conversion problems.

Wilmot, who had visited many sites in the past four months, said he did not recommend conversion in many cases. He thought users should retain existing applications on DME, and develop new applications on VME, presumably on machines using CME to support both environments.

DRISCOLL . . . Moves are a natural extension of Zygal's business.

Zygal acquires modem maker Modular Tech

by John Kavanagh

THE Modular Technology name is to live on following the takeover of the UK modem manufacturer's business by terminal distributor Zygal Dynamics.

And the company's lively former owner, John McNulty, is preparing a comeback with some new communications products developed with his former partners.

But McNulty, known for his outspoken views on British Telecom's monopoly and for his near-outrageous stands at computer exhibitions, says Zygal's purchase is virtually worthless.

The takeover, said to have cost around £50,000, is one of two new departures for Zygal, a UK company which went public by joining the Stock Exchange's Unlisted Securities Market last year. For the company is moving firmly into *networking* by taking on *microcomputers* from the big US manufacturer, Hewlett-Packard.

Chairman Coo Driscoll said the moves were a natural extension of Zygal's business. As a distributor of Diablo, Digital Equipment and General Electric terminals the company was already in communications. It would now be making its own modems, he said.

On the microcomputer front Zygal will be aiming at putting networks of machines into large companies rather than selling one machine here and there to small firms. Zygal already has its own workshops and support services at its subsidiary, Zygal Services.

Zygal is taking Modular Technology's Minimodem, the Interfaker interface tester and other modems. It also has the rights to a laser communications system but Driscoll said it would not sell this product immediately because the signs were that it had not been successful.

The products will be made by Zygal at its premises in Bicester, Oxfordshire. No Modular Technology staff will move across because they left when the receiver was called in two months ago. Existing orders and warranty agreements would be honoured.

"We're keeping the Modular Technology name because it's a major asset," Driscoll said. "McNulty spent a lot of effort promoting it and the company had a very good name in the industry."

According to McNulty, the name is one of the few real assets Zygal has taken over. "I can't understand it," he said. "There was only about £5,000 worth of stock and that all had rogue chips.

"The equipment is old — we were working on new designs but they're all in my head. The so-called production facility they say they've taken on can't be more than a few soldering irons."

But Driscoll replied, "We've got a good deal. There's an enormous amount of stuff, including thousands of components and boards. There are at least 30 modems and very many Interfakers. I can understand McNulty being upset at the loss of his business."

Modular Technology's 1981 turnover was £583,000. Its backer, the Industrial and Commercial Finance Corporation, called in the receiver because it ran out of cash. Zygal grew to a turnover of £2.84 million in 1981-2. Its net profit was up 27% at £320,000.

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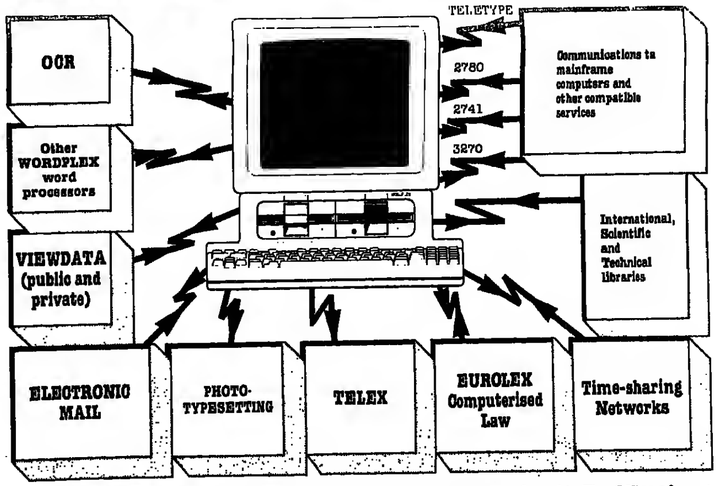

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BROAD . . . Call for government to curb US and Japanese micro imports.

Comart takes on IBM in 16-bit CP/M micros

by Kevan Pearson

A BRITISH microcomputer manufacturer has jumped on the IBM micro bandwagon with s 16-bit microcomputer based on Intel's 8086 device and supporting CP/M 86 and Microsoft DOS operating systems.

Comart's new CP 1000 Communicator range complements its existing eight-bit Communicator range, and represents a significant step for the company into what many see as the fastest growing sector of the micro market.

But Comart's managing director, David Broad, also chairman of the British Microcomputer Manufacturers Group, warned there was increasing interest among group members for a call on the government to curb imports from American and Japanese micro manufacturers who dominate the market in Europe.

No decision had yet been taken, said Broad, but most members favoured such a move.

Comart had sales of about £6 million last year, and plans to increase this to £40 million over three years.

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Growth in optical fibres for LANs

by Donald Kennett

LOCAL area networks will increasingly be based on optical fibres, with short distance applications cresting a market that will be worth £2.5 million this year and £13.5 million a year by 1987 in the UK alone, according to ERA Technology of Leatherhead.

Growth could be much higher than this but for the lack of a low-cost means of regenerating signals and coupling to electronic equipment, the company says, and even in 1987 it will be in the early stages of acceleration.

Launching his company's five-volume, £1,800 report, project leader Peter Baker said: "There is much awareness of fibre optic technology but little practical knowledge. Long-range applications have been well reported, particularly by British Telecom, but short-range fibre optic systems are now established in the UK in business communications and process control."

The most common application for optical fibre links was for connecting VDUs to computers, he said. Optical fibre was already cheaper than copper for shared links, particularly instead of multi-way screened twisted-pair cables, but it was also used to save space in crowded ducts and to protect against tapping and electrical interference.

Local area networks would increasingly be based on optical fibre and two major computer companies, one in the UK and one in the US, would introduce optical based LANs by 1984. Codenoll in the US had developed a star network based on optical fibre that used contention to share channel capacity between attached devices and which was designed to compete with Xerox's Ethernet in the office systems market.

The first integrated circuits for optical fibre communication were becoming available and they already handled signal processing and bit error rate detection on the same chip as the emitter and detector. In future they would provide the basis for do-it-yourself systems.

Both supply and complexity of the chips were likely to increase and the current profusion of systems houses developing board-level products would decrease. As standards appeared which made system components interchangeable, optical fibre systems would gain a bigger share of the market.

There was a wide range of potential applications based on specialised transducers and sensors, which would all help to bring down costs.

R&D urgent for survival of Britain's IT industry

by Kevan Pearson

BRITAIN'S information technology industry could die on its feet in the face of substantial competition from US and Japanese companies, unless a comprehensive, industry-wide research and development programme is started soon.

This warning comes in the report of the Alvey Committee, published last week, which suggests how the UK should answer the Japanese fifth generation project and other national based research projects currently being devised.

The committee called for a £350 million, five-year "Advanced Information Technology" programme, up to 75% funded from taxpayers' money.

The recommendations concentrate on four major aspects of information technology which the committee believes will enable British companies to compete in world markets. They are: software engineering; very large scale integration; man-machine interfaces; and intelligent knowledge-based systems.

The report recommends that the project should start in April 1983, and that it should be limited principally to UK companies. "Foreign multinationals should participate only where they can contribute a particular asset vital to the programme; where the results of their involvement will be available to the benefit of the UK industry as a whole; and where it is guaranteed that valuable technical information will not leak from the UK," it says.

The programme is necessary, the report argues, because rival programmes "present a serious challenge to the UK", and because, based on present trends, the UK share of the world information technology market will decline without it.

The high level of government involvement and taxpayer funding are needed to ensure the widest possible exploitation of the developments coming out of the project. "It is vital that there should be maximum access to the programme and that its results are made as widely available as possible, in order to raise our overall IT capability. If the government does not contribute the lion's share, then companies which have provided funds will understandably insist on sole rights (to the developments produced by the project)," the report states.

The programme calls for radical changes in the way industry operates, and for a change in the way academic research is organised and used.

The £350 million should not cut into existing IT initiatives, but should complement them. The report asks that projects like MAP and other Department of Industry schemes be extended to provide support and inputs for the Advanced Information Technology programme.

The report also notes that a high level of skilled and trained people will be necessary for the programme, and that such people are not available in sufficient numbers at the moment to make the programme a success.

It estimates that about 1,000 people will need to be directly involved in the project and that only about half of these are currently working on areas of direct relevance to the programme. Some of the shortfall will be made up by redeployment, but the remainder will have to be trained.

The report is critical of the cutbacks in higher education, particularly since these have tended to fall more heavily on universities and colleges concerned with technology, such as Salford, Aston in Birmingham, and Bradford. "The result is that many have left the UK to pursue their research overseas. And of these who remain an increasing number are now doing research for foreign industry," the report claims.

Action on education "must start in the schools", and "it is no good just providing schools with microcomputers. This will merely produce a generation of poor Basic programmers."

Universities need to provide more courses on computer science, and fewer on the "hack" aspects of computers and computer programming.

Summary of the recommendations

- **The programme should cover basic research and development in software engineering, VLSI, computar ergonomics sod artificial intelligence and knowledge-based systems.**
- **Computer science education should be expanded to meet the manpower needs of the project.**
- **The government should provide upwards of two-thirds of the total project funding.**
- **Property rights to ideas generated by the project should have the widest possible availability.**
- **The programme should be viewed as lasting between five and 10 years.**
- **The programme should go live in April 1983.**

ALVEY . . . Call for £350m.

Call for commercial exploitation

■ From front page.

cannot bode well for the Alvey recommendations of a significant investment in developing Very Large Scale Integration as one of the key "enabling technologies" of the advanced information technology programme.

Alvey called for the money in the new project to be additional to any existing efforts, which would provide support for the Alvey programme. But it seems likely that the government will repeat its performance on funding the Microprocessor Awarement Project (MAP) for which some £80 million was diverted from the Department of Industry.

The other area which is likely to run into problems is the call for more academic work, and especially more computer science graduates. Both the BCS and Robb Wilmot, ICL's managing director, have rounded on the government for the education cutbacks which have affected technological universities and colleges.

The Committee is keen to get the project off the ground and has called for an April 1983 start.

SALES BRIEF

Unilever to install IBM 3083

ONE of the first IBM 3083 processors to be installed in the UK is going to Unilever Computer Services' Woking site in November.

The system, a Model B costing £1.4 million, is based on IBM thermal conduction module technology, which is designed to improve the efficiency of interconnection layouts, cooling and power distribution.

First sale

THE first major order for Zilog's recently launched System 8000 range of 16-bit microcomputers has come from Shortlands Computing Services, the London-based financial systems subsidiary of architects Sir William Halcrow & Partners. SCS has ordered 30 System 8000 Model 11s on which to base turnkey systems using its management reporting and control software.

£100,000 training

NATIONAL Computing Centre has won a £100,000 contract to train 11 students from Abu Dhabi in systems analysis, programming, technical English and a selection of specialised computing subjects. The contract was placed by the Ministry of the Interior.

DEC-IBM link

SHELL Research has ordered two Brown's Box Model 3299 terminal controllers from Blackheath-based Brown's Operating Systems Services. The controllers will enable researchers at Shell's Biosciences Laboratory in Sittingbourne to use a synchronous link to an IBM 4341 from their asynchronous Digital Equipment VT100 VDUs, and to switch between the 4341 and the DEC, Prime and Hewlett-Packard minis they are currently connected to.

MoD contract

SYSTEMS Designers has won a £100,000 contract from the Ministry of Defence to design a specialised military system based on eight RM3000 ruggedised 16-bit microcomputers made by SDL's associate company Systems Production. This is the first order for a system to incorporate the RM3000, which was upgraded from an earlier eight-bit design by using the Intel 8086 processor chip.

Traffic control

CHIS WICK-based Chernikeeff Telecommunications has made its first sale through British Telecom, with which it recently signed a marketing agreement. The customer, metal commodities broker Erlanger, has bought one of Chernikeeff's UK-made Aviex 1600 message switches to handle traffic on four telex lines and one telegraph line, and will relay messages between its US and European offices.

Credit system

THE UK's largest credit information service, UAPT (United Association for the Protection of Trade), has ordered a Realifusion R2800 Corporate Videotex System for use with its two mainframes in servicing 15 million inquiries a year from its 10,000 subscribers about county court debt judgements, bankruptcies and credit records.

Missile mini

THE FIRST UK order for the recently announced Gould SEL 32/8750 parallel processing supermini has come from British Aerospace Dynamics, which will use it for missile simulation.

MoD contract

SCICON has won a £40,000 contract from the Ministry of Defence to simulate and analyse various aspects of naval ship-to-ship missiles.

Osborne jumps into Cardbox

by John Kavanagh

A UK software marketing company is preparing for the big time following an international trading agreement with the microcomputer manufacturer Osborne Computer.

On its first birthday Caxton Software Publishing revealed that its Cardbox electronic card index package, which it markets on behalf of the developer, consultancy Business Simulations, would be sold by Osborne worldwide with its computers.

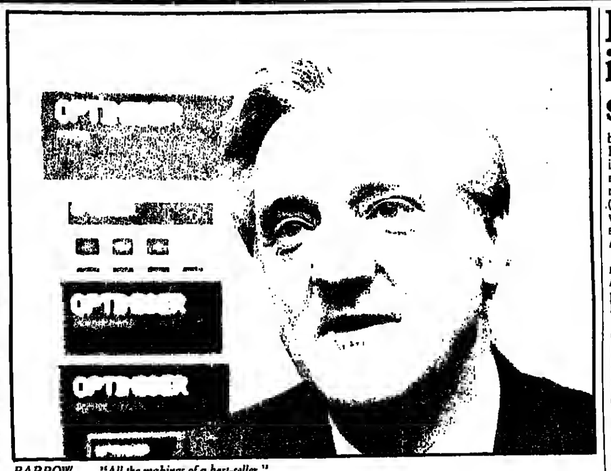
The deal means a second US stamp of approval for Cardbox; it was recently chosen by Xerox for sale through its US business equipment shops.

The product is also sold in the US by Software Distributors and in Australia by Imagineering.

"This agreement is in some ways better than a big order because it will give us massive exposure worldwide," said Bill Barrow, one of Caxton's three founder directors. "Osborne says it will sell between 8,000 and 12,000 copies next year but that's a conservative estimate. Cardbox already sells very well through Osborne's UK dealers. Certainly 1983 will be a big year for us."

Barrow said 1,000 copies of Cardbox had been sold in its first four months, which was a good record for a new product in such a competitive market.

"It has all the makiogs of a best-seller," he said.



BARROW . . . "All the makings of a best-seller."

Cardbox accounts for 80% of Caxton's sales. In the UK it is sold through 100 dealers. Caxton's other main product is Optimiser from Digitus, a linear programming package.

The company is about to launch a CIS Cobol development aid, Sourcewriter, from a UK software firm, Softwrite.

Caxton's aim is to sell high-quality UK software, mainly overseas.

'Japan will lead in world electronics'

by John Kavanagh

THE Japanese invasion of the worldwide electronics markets will take off during the Eighties and Japan will dominate in areas ranging from teletext and facsimile to process control.

At the same time, governments across the world will realise that a major social revolution is being detonated by electronics, and new work and leisure patterns will emerge.

These conclusions are reached by Dr Ian Mackintosh, chairman of the research firm Mackintosh Consultants, in the company's 1983 yearbook on the electronics market.*

Mackintosh research shows the Eighties will see "phenomenal" growth in semi-custom integrated circuits, basic chips which equipment manufacturers customise to their own needs.

The leading Japanese electronics companies are moving into the gate array part of the semi-custom chip business with great speed and determination, says Mackintosh. They will capture a big part of the world market and be well placed to take a leading role in the use of them.

Mackintosh concludes from these facts that Japanese companies will make an "enormous effort" to capture world markets for most business and industrial equipment based on electronics.

They will systematically emulate their success in consumer electronics and semiconductor memory to the point where they will capture a majority of the world's free markets for many types of equipment," he says.

Mackintosh disagrees with the view that Japan's advance will be hit by a lack of software expertise. And he sees no immediate shortage of programmers. It will be software quality, not quantity, which will be the problem worldwide, he says.

Meanwhile Mackintosh sees the Eighties bringing the demise of companies specialising solely in integrated circuits. He points to the recent "tidal wave" of takeovers of chip manufacturers by equipment manufacturers.

And only the very biggest companies will be able to stay in the high-volume silicon wafer manufacturing business, because of the price of the equipment and the cost of designing complex chips.

Mackintosh says electronics will encroach on all areas of human activity, from manufacturing to shopping, law, medicine and leisure. Governments will "eventually" see that a major social revolution is under way. New work patterns will arise because of the "irresistible" productivity increases and laws and social customs will start the long process of adjustment to the eventual age of leisure.

* Mackintosh Yearbook of West European Electronics Data 1983. 310 pages. £150. Benn Electronics Publications, PO Box 28, Luton LU1 2NT.

VSAM users get new data storage tool

by Philip Hunter

USERS of IBM's complex virtual storage access method (VSAM) have a new tool to provide detailed information of how the data is stored. Westinghouse Management Systems has just announced its version called Quicat, and several other small software houses have recently brought out equivalent facilities.

Quicat has already been given free to users of Westinghouse's Paver system, which is designed to improve the security and integrity of VSAM data on IBM 4300/303X mainframes, or plug-compatible equivalents, running the DOS/VSE operating system.

VSAM is a powerful data storage method allowing users to access in several ways including sequential access, index access, and access through a catalogue. Files of data are kept in clusters, details of which along with a list of available space for further storage, are kept in the catalogue.

The problem is that the method has not yet been perfected, and is prone to error. "When this happens, the user can have enormous problems recovering data," says Westinghouse sales manager Chris Warren.

Paver is an attempt to help users overcome these problems by searching for logic errors in VSAM databases and printing out details.

Quicat enables the user to make better use of the catalogue which contains all the information about the data and organisation of the VSAM base.

HP ad is inaccurate, says Apple

by Kevan Pearson

HEWLETT-PACKARD has run into trouble over comparisons made in one of its national newspaper advertisements. Apple (UK) has complained to the Advertising Standards Association about the advertisement, and the ASA is investigating.

Apple claims that the advertisement has inaccurate facts about the Apple III micro, which is compared with Hewlett-Packard's HP87.

A spokesman for Apple said the company disputed three points made in the advertisement: that the Apple III has no programmable keys — Apple says it does; that it does not have a built-in disc operating system — Apple denies this; and that it has no self diagnostics — Apple claims that the machine has a comprehensive self-diagnostics and problem display system.

A spokesman for Hewlett-Packard said: "The HP87 has been superseded and the advertisement has been shelved never to come out again."

IT'S ENOUGH TO MAKE YOU SICK

The Social Security and Housing Benefits Act is now law. And it's enough to make any DPM feel weak at the knees.

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The way the new legislation works is that when an employee becomes ill, he must, after three days, "self-certify" his illness by completing a rather complex form. This is then passed to the employer, who is obliged to provide sick pay at the appropriate rate for up to eight weeks.

The employer then claims a refund of sick pay against his monthly National Insurance and tax payments. All of which may sound nice and simple, but of course isn't. In fact the administration and systems implications are so alarming that some companies are actually considering not even bothering to claim their refunds simply because the additional staff and management costs would make it uneconomical.

Not many companies can realistically afford such an expensively philosophical point of view. Answers to the problem must be found, and as the problem revolves around the rapid handling of large amounts of detailed information, guess where the pressure is going to fall?

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Firstly, in the shape of a comprehensive study, 'SSP; an introduction and guide to Statutory Sick Pay from Peterborough Software'. Designed for payroll managers, the guide examines and analyses the workings of the new Act, and its impact on payroll management. Complete with explanatory charts and diagrams, the SSP guide provides a complete source of vital management information, and is available from Peterborough Software at a fee of £30.00 a copy.

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Reid (left) and Bennett . . . VDU filter works on the same principle as Polaroid sunglasses.

Polaroid takes leaf from its own book with VDU filter

by Philip Hunter

EYE STRAIN and migrnine csused hy glare from vidco terminals could be greatly reduced with a new filter that works on the same principle ss Polaroid sun glasses. Called the CP-70 Contrast Enlanceoient Filter, it is made by Polaroid and will bc marketed io Europe by Northampton-based Cave Tab.

The filter fits on to the front of VDUs and comes in 24 stauds rd sizes, and costs from £98, and about £125 for a typical screeo. But the price is reduced by up to 30% for bulk buyers.

Stewart Bennett, managing director of Polaroid's polarising division, claims that experiments prove that the expense is worth incurring. Alternative methods of reducing glare are cheaper, but cut out the contrast between the character displays and the rest of the screen, he says.

The cheapest metbod, apart from simply turning out all lights, is the nylon mesh, which fits straight in front of the screen. "This is chcsp, but causes a severe loss of sharpness," says Bennett.

Users can go up-market from this and employ anti-reflection coated glass. This is better according to Beonett, but does not cut out aamuch glare as the CP-70.

Another method is to have an etched plate bonded on to the VDU tube io reduce glare. Polaroid eventually intends to bond the CP-70 on to the VDU screeo itself. But this will take several years, says Bennett, because it is technically difficult and needs the cooperatioo of VDU makers.

However, Bennett says that Polaroid is willing to supply VDU makers as OEMs.

Cave Tab is the first outside distributor to be appointed by Polaroid, wblch has its own European operadon for other products like cameras and sun glasses.

There are about a million VDUs in Europc.

DB machines 'will get more popular'

by Donald Kenoett

SPECIALISED database machines have failed to take off so far because they are thought to be of little use to businesses, accordiog to a US expert.

Speskiog st the Pergamoo-Infotech Database Week seminar in London last week, Dr Paula Hawthorn of Lawrence Berkeley Laboratory said that most business applicatioos were iransaction oriented, involving simple retrievals needing little data manipulation.

But they have s high overhead in access control and validity checking outside the dstabase. In contrasi, the development of database machines had concentrated on operations such as searching and matching within the database, she added.

"Business is what is going to pay for these machines," Hawthorn said, "but they will get more popular as people realise how much of their processing is bibliographic or statistical as well as transactional. They will also become commercially viable ss costs come down."

Bibliographic applications she defined as being search intensive and involviog long strings of data held on many discs. Telephone directories were included in these.

Statistical ones involved making correlations over very large data sets. They included management information systems and reporting systems.

The only performance criteria available were very rough rules of thumb, such as effective instruction speed or mips rating (millions of instructions per second) and effective input/output rate.

People often thougkt that speed was proportional to the number of processors working in parallcl in the system, she added, but this was not so because of the overhead in the cuntrolling processor.

The key was whether the processors were organised so that applications cuuld exploit the multiple processing capability. Also, no matter how good the architecture the software could still render it useless.

The only way to be assurcd of the desired performance was to benchmark the system with application-related tests. "Everybody knows not to trust the vendors' literature any more," she said.

Disc access speed was the primary factor limiting performance. Even systems using multi-ported disc drives, such as ICL's original CAFS design, featured similar seek times to conventional hardware, slthough CAFS was very fast on searching long strings.

However, the use of multiple processors to solve performance problems was still the driving force behind system design and many designers took future dramatic improvements in storage media access times for granted.

Disc-based systems were best for bibliographic or searching applications, while cache-bs sed systems were best for statistical or correlating ones. But the cache had to hold a substantial pruporion of the whole database or else it would be defeated by swapping in and out in some types of access.

The relotional database model was the one for the future, Hawthorn said, because it promised greatly increased productivity for users. It facilitated high-level queries such as "get me the salary of everyone who works for Jones"; its data independeoce meant the database could be shared across several machines; and its regular data structure was easy to handle.

Many companies could not give up their preseot systems, but in five to 10 years there would be many more relational systems, she said.

HAWTHORN . . . "Rules of thumb are the only performance criteria."

More jobs lost due to hi-tech

by Kevnn Pearson

THE number of new technology agreements between unions and enuolovers is increasing, according to a survey* by the Labour Research Department. But the number of jobs lost as a result of the introduction of new technology is also going up.

Less than one-third of the 225 agteements covered by the survey give guarantees of no job losses nr reduodancies. And in 42 of the 127 offices in the survey, which included top commercial and public sector employers, jobs were lost as a direct result of new technology.

The survey also shows that in two-thirds of the cases studied, consultations between unions and management took place before new technology wss introduced.

The reprnt suggests that workers are generally taking s positive attitude towards changes in the work environment – 83% of those questioned did not feel that their jobs bad been deskilled, and more than a half said the jobs had been enhanced.

However, in most cases any improvement in pay or other work conditions was limited to those directly affected, principally the operators of new technology.

Those who operated the new equipment gained higher earnings in one-third of the cases. But in only eight cases did new technology agreements lead to shorter working hours. Most of the job losses took place in companies where there was s large clerical operation. The majority nf new technology agreements have been signed with white collar workers.

*Survey of New Technology – Bargaining Report No. 23, Labour Research Department, 78 Blackfriars Road, London SE1 8HF. £6 (£2 ro trade unions and educational bodies).

Elbit offers know-how to UK

by Jnhn Kavonagh

ISRAELI military computing know-how is on offer to UK companies from Elbit, Israel's computer manufacturer. Its UK subsidiary, Elbit Data Systems, is moving to a systems house sales approach and is considering collaboration with UK software and hardware firms.

With this new string to its bow the company is aiming at a UK turnover of over £10 million in five years.

"We are offering the resources of the entire Elbit company," said UK managing director Yossi Barath. "We can design and manufacture hardware and software in Israel. Or we can work with UK companies, offering them the development or installation work.

"We have a relationship with two UK software houses and we are looking for more software and hardware specialists who would like to join us. We can offer long experience of military systems – and the Israeli army is a very good testing ground."

He added: "Many UK companies would like to get this know-how, not only for defence contracts but for command and control and communications systems."

Barath said he was restructuring the UK company. Nine of the 15 staff were now working on systems. Elbit was expanding the UK subsidiary and setting up in the US, he said. The company is also operating in France and West Germany.

Under its new systems house banner Elbit has won a contract to put together a data collection system to help with the compilation of Gallup Poll's top 100 pop records and tapes. The top 100 chart is used by the BBC and Music Week magazine.

The system, which replaces manual methods, involves tape-based data capture devices in 300 record shops. At the end of the day, an Elbit Keypact minicomputer calls each machine to get its sales data, then passes it to Gallup's 1BM 4331 computer, which compiles the chart.

■ **Robert Parry** adds: To boost UK sales across the full range of products – from micros through to mainframe systems – Elbit is going all out to attract distributors and dealers to take advantage of this hardware aod software support and service network.

Elbit is offering dealers a five-year credit line at 10% interest a year. "We don't waot their money now," saya Barath, "though we do expect it in five years' time."

Bnrath hopes to sign up between five and seven distribuors to cover the UK, with as many dealers as he can get. "All the dealer has to do is be able to sell. We give all the hardware and support."

Prospective dealers are asked two simple questions (apart from which territory they cover): "Can you forecast a minimum of £150,000 of orders over the next 18 months?" and "Can you undertake a firm order for £30,000?"

"If they answer yes to both," says Barath, "they will be eligible for the total Elbit support."

BARATH . . . Restructuring.

Honeywell DPS6 minis get dual processors

by Philip Hunter

HONEYWELL is consolidating on its DPS6 range of minicomputers by introducing a dual processor version for resilience, as well as more commercial processing software. A database query system that the company says "will avoid users having to write their own programs" will be launched early in 1983.

This will operate on databases set up under Honeywell's TP56 transaction processing system, which was developed by the company's UK division on the Level 6 minicomputer range. The DPS6 range evolved from Level 6, in 1981, and both are compatible.

Until recently, TP56 was restricted to larger DPS6 models, but it will now run do say machine in the range following ao increase in memory. Honeywell is developing a microcomputer that will be compatible with DPS6, and expect eventually to have the transaction system working on that as well.

Honeywell bas been quietly introducing resilience to the UK over the last few months, and expects it sooo to be adopted worldwide. Resilience is achieved by linking two DPS6 processors with a fast connector. One of the processors does the analysis, while the other acts as a tracker, duplicating CPU and database operations of the other, and taking over when it fails.

Such a system guards against disc, CPU or memory failures, and Honeywell claims it can go down and recover from power failures. One attraction of the system is that it can easily be upcounted to yield two separate processors, a number some have already made.

Computers keep French firms healthy

by Inek Gee

SMALL and medium-sized firms which use computer technology are the healthiest in the French economy with expanding employment, profit growth and encouraging exports, according to an investigation by the business daily *Les Echos*.

France now has 75,000 firms with 132,000 machines installed and a staff of 210,000. For last year 59% reported growth, 26% stagnation, 10% a temporary backslide and only five per cent s real decline in activity.

While unemployment is expected to rise from two million to 2.2 million by the eod of this year, 25% reported an increase in personnel and 58% said, they were, esporting over eight per cent of turnover.

French firms equipped with computers operate on average 10 times more office equipment (telephones, photocopiers and typewriters) than those which make no use of data processing technology. They also have 20 times as many executive staff.

Very small companies which handle about 5,000 invoices a year are equipped with a microcomputer operated until oow by a single specialist. Very big firms with a high invoice volume (70,000 a year) operate an average of nine computers, including one mainframe and one medium-size system and have a data processing staff of 25.

Medium-size systems become increasingly important in a French firm until the threshold of 200 employees is reached. Beyond this level, microcomputers regain importance.

Data processing staff iu French firms, except for input operators and trainees, totals 210,000 including 24,000 project managers, 74,000 analysts and programmers, and 110,000 operators. Paris and its green belt account for 41% of staff but only one third of computer sites, because of the high concentration of mainframes in and around the capital.

A microcomputer nr small system keeps two specialists active, compared with 10 for a medium-size system and about 50 for a mainframe.

Les Echos reports that 75,000 sites are now equipped with 94,000 machines and 38,000 microcomputers which are installed outside data processing departments. Some 70% are very small systems and under 25% are medium-sized.

IBM's dominant position is confirmed by all firms except those with four employees or fewer where Olivetti, Logabax and CII-Honeywell are making the running. The American giant controls 10% of computers in firms of up to four employees, 30% for those between 50 and 100, and 90% for those of above 1,000.

CII-HB equips 13% of firms between 20 and 99 staff and 53% of those with over 1,000.

ALLISON . . . Can deliver up to 10,000 units a year.

Microfloppy standards battle victory for Sony

THE standards battle for microfloppies – discs less thao four inches in diameter – looks set to produce a winner. While systems from rival companies are being looked at avidly by micro makers here and in the US, the Sony format, using 3½-inch discs, has been teotatively accepted as the basis for a standard by several US and European drive and media suppliers.

The proposed standard was submitted to an ANSI committee last month, by companies including Shugart, Micro Peripherals and Verbatim. It would take Sony's design and adapt it to be plug-compatible with existing 5¼-inch floppy drives. This would involve changing the number of tracks from 70 a side to 40 or 80, and give a capacity of 1 Mbyte for the double 80-track veraion. Sooy's drive currently gives 437 Kbytes on a single-sided disc.

ANSI is likely to take a year to decide on accepting the proposed standard, but the companies involved have said they will go ahead and produce drives based on it. They feel they cannot afford to wait for the standard to be given ANSI's official blessing. If enough products appear on the market the standard will become established anyway, as happeoed with IBM's 8-inch and Shugart's 5¼-inch drives.

Apart from the floppy drive and media manufacturers that have taken to the Sony microfloppy solution rather than its main rival from a Hitachi/Matsushita/Maxell consortium, Sony's drive has been boosted by a $30 million order from Hewlett-Packard and a recent OEM agreement with RCA. HP's order represents about a quarter of a million units, which will be delivered from next year.

While the jockeying for acceptance carries on io the US, competition in the UK is hotting up too. Although Sony's drive was launched nearly a year and a half ago in the US, it has only just put in an appearance here. The Hitachi and Co drive was anuounecd in June for the UK, and should start going out to end users by the beginning of next year, while a Hungarian offering marketed through Bats-NCI is poised for delivery in reasonable quantity.

But despite the relsitive lateness of announcement here, Sony does not think itself at a disadvantage. "We have had lots of OEM eoquiries," says product marketing manager Robin Allison, "though until now it has all had to go via Japan and has resulted in no business because of the complexity. But now Sony UK is doing OEM sales direct."

Allison reckons he can deliver up to 10,000 units a year with no problems, snd puts this forwsrd as one of the Sony drive's advantages. The other main features hc pushes is its ability to work off batteries, making it suitable for portable computer use.

One thing held against the Sony unit in the US standards fight has been the lack of an automatic shutter on the plastic cassettes protecting the disc medium. The Hitachi drive has such a spring-loaded shutter, as does the Hungarian drive, though this is out of the US running because of its Eastern European origin. But the Sony unit could easily be adapted to have an automatic shutter, and this is not seen as a major sticking point.

UK micro manufacturers and marketers are busy testing out all these rival solutions – with their conflicting sizes – to the microfloppy.

180 outlets planned for UK machine

BRITISH micro builder Io Technology is gearing up for a big push on its Iona microcomputer. Over the next six months it hopes to expand to 180 outlets for the machine, from its present base of 21 outlets through 15 dealers, by finding the elusive "upper echelon" dealers every other manufacturer seems to be chasing.

"We are looking to sign on another five in the next fortnight," says sales manager Nigel Tompkins. "Fifty people have applied, and we are busy vetting them. We ask a lot of our dealers, because we give them a lot."

The Iona machioe made its debut around Compec time last year, but things did not really start moving until the company went public, raising £500,000 in April. Since then about 80 Ionas have found their way iotn the marketplace, though Tompkins is wary of estimating how many are with end users yet.

The Iona microcomputer was designed and built by Iotec in the UK, though peripherals like floppy drives and monitor ate badge-engineered products from other manufacturers, boxed to match the main Iona unit. "It uses mature technology," says Tompkins – the standard Z80 microprocessor, 64K of RAM and the CP/M operating system – "but we felt there was a oeed for a properly designed and developed British microcomputer."

It has a multiplicity of microprocessors, a central Z80A with a further processor for each peripheral, giving the machine a true 4 MHz operating speed, according to Tompkins. The 64K of RAM is expandable up to 960K, with paged memory and user-transparent memory bank switching.

The Iona processor alone weighs in at £995, a full system including twin floppy drives, colour monitor and colour printer at £3,570.

Altos adds to its range

ALTOS Computer Systems, US-based microcomputer manufacturer, is to extend its range of machines on offer in the UK before the end of the year. Two models will be added to the 8-bit and 16-bit micros, which are aimed at the upper end of the micro market – those minicomputer users coming down in scale.

Ooe will be a multi-user machine, supporting six users, says UK-based Northern European sales manager Roger Llewellyn. This will be built around the Intel 16-bit family favoured by Altos, and will use 5¼-inch Winchesters for mass atorage.

The other to be sold only through OEM deals, is a breakaway from Altos' current technology base. It will use the Motorola 68000 processor to support 16 users, with a minimum of 512K actual RAM and virtual memory support allowing larger programs to be run.

Operating systems used will be Unix and COS 68000, from US software house Ryan McFarland. The operating system and Cobol implementation for Texas Instruments' eomputer range were written by Rysn McFarland, which is pushing its COS operating system hard into the TI user base.

And the pusb is not one-sided, according to Llewellyn. "We have been approached by a lot of TI dealers," he says.

NatSemi signs Japanese deal

JAPANESB telecommunications and electronics manufacturer Oki has reached agreement with US National Semiconductor to cooperate in development of MOS memory chips. The deal will involve technology exchange, and joint development and production of advanced chips. Both NatSemi and Oki currently manufacture 64K dynamic RAMs, and Oki has already announced a 256K chip.

NEC release for UK soon

A CMOS 1-Mbit ROM is to be released soon into the UK market. The device from NBC has 1,100,000 elements on a 7mm square chip, and offers low power consumption and good noise immunity. It uses 1.8 micron technology to cram the elements in. Main application areas are seen by NEC to centre round those with mushrooming storage requirements for information.

Micro News is compiled by Robert Parry

A thrifty new generation of "thimble" printers.

NEC's Spinwriter 3500 Series

If you're thinking about choosing e "daisy wheel" printer, think again. In the long run, NEC's new medium-speed Spinwriter 3500 Series may well be the more cost-efficient choice.

Our unique thimble element gives more characters in many languages. In fact 128 versus the more common 96.

By dramatically reducing the number of components in the Spinwriter 3500 Series, we've made it one of the most reliable and cost-effective printers you can own.

The new 3500 Series also comes with a wide choice of paper-handling options and the latest word-processing features such as proportional spacing.

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NEC Spinwriter 3550

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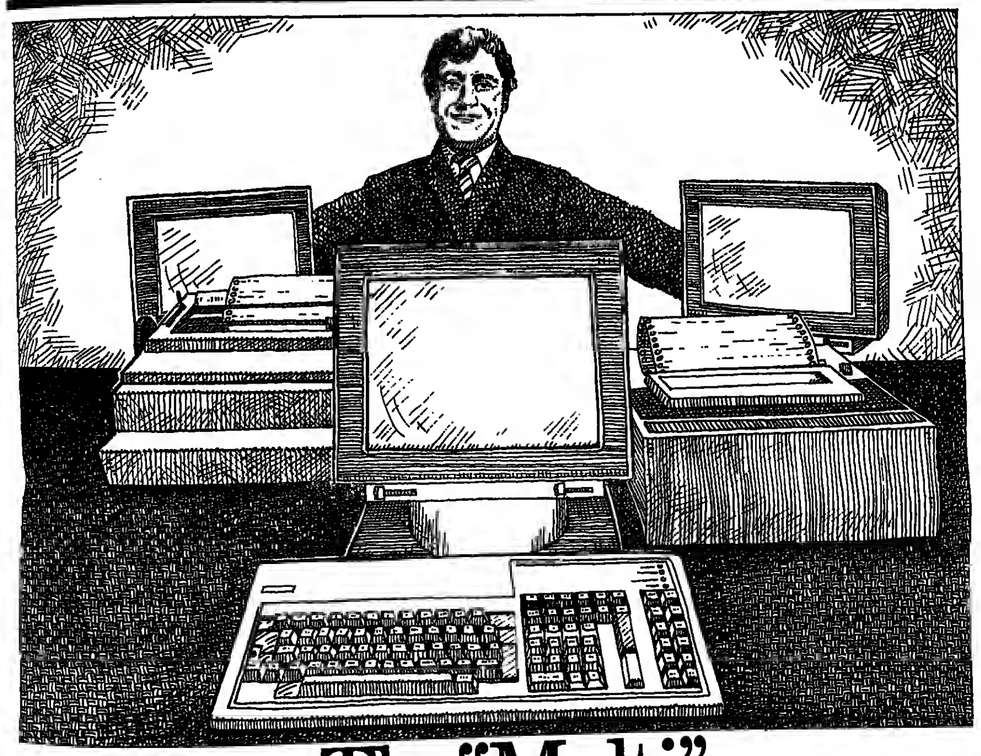

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BUSINESS SYSTEMS

CW 14/10/82

COMPANY NEWS

Buyers pick up bargain in Case

SMART buyers have dived in to pick up Case shares at bargain prices.

When Hemel Hempstead-based Case backed out of the word processing business a few weeks ago, the stock market hammered the shares. In a matter of days the value of the 25p stock plunged from a high of 250p to less than 200p. But now the wave of selling has stopped.

An analyst who has made a personal survey of Case and particularly its financial control systems, Neil Barton of stockbrokers Henry Cook Lumsden, reckons that the quality of the financial management at Case is on a par with the most advanced systems in the UK or US.

He says the speed with which Case reacted to the NBI problems and terminated the situation before the losses burt either the balance sheet or cash flow give him confidence in the company.

According to Case, the company terminated its arrangements to distribute NBI word processors in this country when NBI failed to supply the promised communications software for the large machines.

Case last week signed agreement with the NBI parent to transfer the UK operation in total to the US-based company.

Mostly overlooked in the clamour about Case's action, NBI's other international distributor, TRW, also dropped the NBI range for the same reasons cited by Case. NBI has since purchased worldwide distribution rights from TRW. Barton reckons that the move could cost Case £400,000 in direct losses, and a writedown of about £450,000 against the reserves. These stand at some £11 million and are unlikely to suffer unduly as a result.

"Although the tactic of distributing word processors has failed, the strategy continues to be sound," according to Barton. He foresees a Case-developed software-based replacement, which would perhaps facilitate communications between standalone WPs.

Barton notes that Case has more specialised staff in the communications field than ICL or IBM UK.

Growth predictions for the communications market over the next few years seldom fall below 30% and many commentators expect 50% or better.

Case has a reciprocal manufacturing licence agreement with Paradyne of the US. Paradyne sells Case multiplexors in the States and Case multiplexers there, and Case manufactures and sells Paradyne modems in the UK.

WALLACE . . . More power.

Centre-file bureau takes over a rival

NATIONAL Westminster Bank subsidiary Centre-file is broadening the base of its bureau operations with the acquisition of MACS, Management Accounting and Computing Systems.

Centre-file managing director, John Wallace, said the company had been reviewing its 5-10 year strategy and concluded there was a need to move away from concentration on bureau processing services. MACS of Merseyside has a range of software packages for commercial, industrial and financial institutions that run on in-house Texas Instruments computers.

Centre-file and MACS had been direct competitors in systems for building societies. The products, Wallace said, complement each other, and he expects the joining of forces to increase their power in the marketplace.

"The other MACS turnkey systems will provide us with additional products to expand our growing mini- and micro-based services," said Wallace.

Friendly 'divorce' in MBS group

by Robert Parry

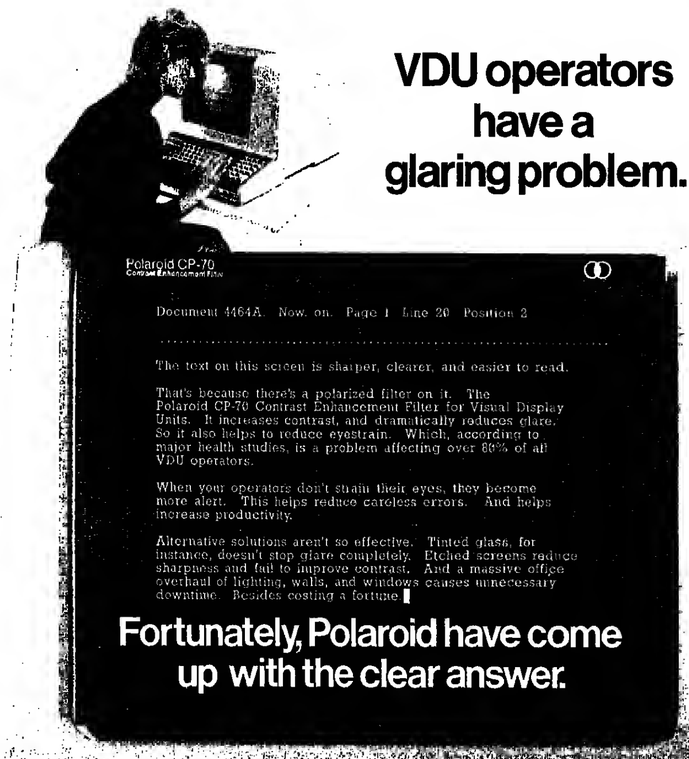
MICRO dealer MBS Data Systems is to split away from its parent MBS Group. The divorce is amicable, and was brought about by MBS Data Systems' desire to handle the Fortune 32:16 high end microcomputer.

A new company, Tetra Data Systems, has been formed jointly by the ex-MBS Data Systems and software house Tetra Business Systems of High Wycombe. It will act as a distributor for Fortune.

A renamed MBS Data Systems (Tetra Information Systems) will be a dealer, selling to end users.

As well as taking the Fortune machine, Tetra Information Systems will carry on with the Jacquard and Honeywell turnkey business established by MBS Data Systems. "Its prime activity will not be the Fortune machine," says director Gordon Skinner.

But Tetra Data Systems, the Fortune distributor, will concentrate on that product, with a heavier emphasis on software than would have been possible with the MBS Group. "The major thrust of MBS is in hardware distribution," says Skinner. "It just would not have been possible within the group to take on Fortune."



VDU operators have a glaring problem.

Fortunately, Polaroid have come up with the clear answer.

Each year the number of people using Visual Display Units increases.

And, each year, so do the problems which VDU glare causes. Studies have shown that over 80% of operators suffer from eyestrain, which, in turn, leads to tiredness, careless errors and lower productivity. It also increases absenteeism.

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As you would expect from a company of Polaroid's reputation, they haven't just reduced glare, they've eliminated it. The CP-70 filter comes in a range of sizes which fit easily onto every type of display terminal. And once one is fitted, it should never need changing.

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4m units by end 1983

THE plan by financier Cecil Kernot to fill the world with his Triemco 2000 all-in-one telephone and data communications device continues apace.

International Communications Technology, the master company registered in Luxembourg, and quoted on the London Stock Exchange via the restricted Rule 163 (1) (B), which owns the Triemco device, has signed a joint venture agreement with the Conic group.

The Conic group is one of Hong Kong's largest manufacturing groups, with net assets of about £49 million and profits last year of £4.5 million.

Under the agreement the joint venture company will manufacture the Triemco, which has a planned production volume of four million units up to the end of 1983.

In the UK there are plans for International Communications Technology to make a public flotation to raise $20 to $30 million to help finance production.

According to a recent research by ICT, the company made an unaudited profit of $528,370 for the six months ended June 30.

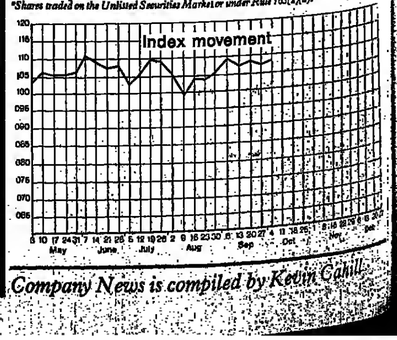
'SHARES TABLE'

The shares table, which is specially compiled for Computer Weekly, shows selected computer companies that reflect the state of the computer industry.

Date 8/10/82 Index 180.27 Change +2

Pence 1982 High	Pence 1982 Low	London Stock Exchange Stock	Pence Price	Pence Chge	$ 1982 High	$ 1982 Low	US Stock Stock	$ Price	$ Chge
223	181	ACT (App Comp) 175p1	223	+20	29¼	18	Amdahl	24	+¼
197	150	ADC Int. 150p	168	+13	21½	11¼	Apple Inc	20¼	+¼
37	16	B. Roy Kent 25p1	31	+3	38	21	Auto Data Pro	37¼	+¼
127	101	Chubb 125p	112	+8	28¾	17	Burroughs	28¼	+¼
80	48	Cole Chrous 25p1	76	+5	13¾	7¾	Comp Scien	13¾	+¼
303	180	CASE 150p	190	+16	31¾	17½	Comp Sciences	31¾	+¼
730	445	De La Rue 25p	480	+15	15½	8½	Combitrol	15¼	+¼
350	270	Extel 25p	315	+15	2	2	Control Data	2	+¼
484	2121/2	Fairamil (50p)	489	+5	28¾	21½	Cray Research	28¾	+¼
1244	720	GEC 125p1	1244	+13	26¾	11¾	Data General	26¾	+¼
76	30	ICL 125p1	76	+14	26½	11¾	Datapoint	26¼	+¼
7	3	Kalamazoo (10p)	7	+1	3¾	1¾	Dataproducts	3¾	+¼
310	272	Kode Int (10p)	305	+7	67½	62¾	Digital Equip	67¼	+¼
316	215	Memco (10p)	308	+16	77	51	Elec Data Sys	77	+¼
186	110	Muirhead (25p)	184	+5	8½	3½	Gen Automation	8¼	+¼
287	215	N'market (1661) 13 051	285	+2	38½	24	Harris	38¼	+¼
800	570	Norcros Deca	725	—	34¾	23¾	Hewlett-Packard	34¾	+¼
470	395	Office & Elect (25p)	470	+28	84	51¾	Honeywell	84¼	+¼
565	446	Phillips Lamp (£1)	547	—	67½	41¾	IBM	67¼	+¼
637	346	Plessey 150p1	637	+57	60½	37	Intron Ind	60¼	+¼
87	29	Quest Autos (10p)	30	—	5	3	MDB (Holroyd)	5	+¼
505	353	Reed Elect (25p)	504	+14	163¾	84	MBA (Hanimex)	163¼	+¼
255	171	Rediffusion (25p)	255	+15	46¾	27¾	Magnetic Analysis	46¼	+¼
406	389	Thorn-EMI (25p)	383	+13	18½	7¾	Magnuson	18¼	+¼
83	74	UCS 150p1	80	— 2	10	6¾	Mohawk	10	+¼
					29¾	20¾	Motorola	29¼	+¼
		OTHER MARKETS*			13¾	6¾	National Semi	13¼	+¼
90	80	Bus Comp (10p)	88	—	86¾	40½	NCR	86¼	+¼
209	78	Consult (C&P) (10p)	195	—	27¾	14¾	Perkin-Elmer	27¼	+¼
174	100	Int'nsional Tech (50p)	174	+ 5	31¾	21	Prime	31¼	+¼
262	243	Ip Tech (25p)	247	—	27½	18¾	Racal-Dana	27¼	+¼
60	48	Knight (50p)	52	— 2	24½	16½	Tandon	24¼	+¼
130	112	Micro 33 (10p)	116	-13	26½	14¾	Tandy	26¼	+¼
178	88	MMW (£1)	126½	—	36	19¾	Texas Inst	36¼	+¼
106	43	Rolls & Nolan (10p)	104	— 2	160¾	85	Tymshare	160¼	+¼
139	78	SemCorp (10p)	96	—	27¾	14¾	Wang Lab B	27¼	+¼
268	139	Stag Comp (10p)	268	—	41	20½	Wang	39¼	+¼
106	86	Tidelay Comp (10p)	80	—	11	7½	Wyly	10¾	+¼
112	78	Zygal Dyn (50p)	83	—					

The table shows the closing prices in London on Friday and in America on Thursday. The Tue Index is based on the prices of the UK companies in the table. Highs and Lows have been adjusted where necessary.
**Shares traded on the Unlisted Securities Market or under Rule 163(3)(a).*



Company News is compiled by Kevin Cahill.

SOFTWARE FILE

Cobol on tap for systems builders

by Philip Hunter

IBM COBOL systems builders can draw on the accumulated wealth of past programs with an applications developer announced in the UK by Data Logic. The system, appropriately named ReadyCode, gives the user access to code already written and stored in a library, which also contains documentation.

In a market saturated with extravagant Utopian claims, Data Logic is selling ReadyCode on the quality of the programs produced and the associated documentation.

"We are not simply selling a program generator as other people do and letting people get on with it," says technical operations manager Alan Jupp.

Most system generators are based on a high level language that is compiled to produce Cobol code, while ReadyCode has the Cobol on tap. As such, its main competitor is IBM's own Alias system, which will also produce Cobol code, but does not provide such comprehensive documentation.

ReadyCode was developed in the US by the Missile Systems Division of Data Logic's parent company, Raytheon, which has been using it for five years. It sprang from the discovery that many Cobol programs had a lot in common that could be recorded and standardised for posterity.

Raytheon studied 6,000 of its Cobol programs and found that 60% of the total code was common to more than one program. Differences in style and layout were blamed for the fact that code common to more than one program had not been reused.

ReadyCode has a menu-driven series of prompts to guide the user through the library – and build a program shell of Cobol code. This shell can be edited to include unique code for the particular application.

If the new code is likely to be used again, it can be incorporated into the library.

The system issues prompts for documentation when new code is entered, so it is impossible to have uncommented modules in ReadyCode. During development, the system automatically produces documentation that identifies the need for further unique code.

JUPP . . . "Not simply letting people get on with it".

New tools for micro applications developers

DEVELOPERS of microprocessor applications have new tools in their kit following recent announcements of software and hardware by several companies.

Electronics giant Philips has completed its support for the 68000 microprocessor with the addition of the Pascal language to its PMDS development system. And Racal-Dana has announced a new logic analyser.

Philips' support comes with a microcomputer adapter box (MAB) to enable Pascal to be cross-compiled on to the 68000 microprocessor. At the same time, the logic of a Pascal program can be tested by compiling it into Philips object code for debugging on the host PMDS system.

Philips is also complementing its PMDS microcomputer system with a fast-memory analyser aimed mainly at development engineers.

Philips eventually plans to integrate this new PM 3551 range of logic analysers into its PMDS system for full interactive microprocessor development involving both software development and hardware logic debugging.

Racal-Dana Instruments' logic analyser is aimed at software designers rather than hardware development engineers. "We are aiming for software designers debugging in hardware," says Gordon Taylor, of Racal-Dana's development team.

Taylor concedes that Racal's new analysers, the Series 200, cannot deal with hardware faults in fast memory. "But we think the bulk of the market is in software testing," he says.

The Series 200 can be connected to computers for interactive use through GPIB control.

The new Philips logic analyser uses a revolutionary storage method to improve performance, according to the company's logic analyser specialist David Gallagher.

Instead of keeping a continuous record of the signal generated by memory, it only records a change in the signal, and when that change occurs.

Since the signal often remains unchanged for several seconds, which can be a long time in processing, this method enables longer samples to be obtained without loss of resolution.

Packages for City dealers

by John Kavanagh

A NEW UK systems house has been quick off the mark with packages for members of London's Financial Futures Exchange, which opened in the City last month.

Britsford Information Technology has launched a microcomputer-based information management system for traders in currencies and gilts. And another package, running on the band-held Sharp PC1500 pocket computer, is aimed at helping dealers to work out the best buys.

The £350 microcomputer system runs on most eight-bit machines based on the Zilog Z80 processor.

"Members are uncertain how big the financial futures market will be and many are adopting a wait-and-see attitude before investing in support systems," said BIT managing director David Jones. "Our systems provide insurance to the wait-and-see member without heavy spending."

Programming of the future seminars

COBOL programmers can learn how they will be coding in a few years' time at four seminars on the new Cobol 80 being organised by the National Computing Centre. The seminars will be held in November in London, Birmingham and Manchester and will discuss the impact of the version of Cobol likely to be standard by the mid-1980s.

The seminars will examine how Cobol standards are reached. At present, the US Codasyl Committee is responsible for discussing and recommending new Cobol versions. These are written into its Journal of Development, and passed on to the American National Standards Institute (ANSI) which has responsibility for laying down the new standard.

This process takes several years and has been criticised by people who think it would be quicker if ANSI were responsible both for developing and defining a new standard.

"People are saying that Codasyl is not doing the right thing," says Lyndon Morgan of the NCC.

As a result of the long lag between initial conception and execution of new Cobol features, the version of Cobol now being discussed is known as Cobol 80X.

ANSI has also been criticised for failing to maintain adequate compatibility between successive standards. These controversies, along with the detailed features of Cobol 80, will be discussed at the NCC seminars.

There are three main differences between the existing ANSI 74 Cobol, and the new Cobol 80. One is that Cobol 80 offers a block structure with new statement delimeters to enable better structured programs to be written.

Cobol 80 also has an EVALUATE verb similar to, but more powerful than, the CASE statement of Pascal. This allows actions to be taken according to the value of a variable. In effect, a decision table can be built, with the value of a variable determining what path the program is to take.

The third main new feature of Cobol 80 is inter-program communication, which allows one program to be a subprogram of another.

'Compilations cut by 50%'

COST and effort involved in Cobol compilations has been boosting the program generator market over the last couple of years. Now there is another alternative which will allow IBM OS and DOS users to stick to the Cobol language.

Scan/370, recently released by Group Operations Inc in the US, simulates the execution of every statement in the procedure division before compilation or testing. It covers every possible data condition and path, and analyses the program's processing logic structure, producing narrative, graphics and diagnostic exception reports.

Software Engineering Benelux Inc, the European distributor, claims that Scan/370 reduces the number of Cobol compilations in the average installation by over 50%. The OS version also includes Cobol Superset, which incorporates three powerful verbs as an extension to Cobol report generation.

IBM specialist

A NEW software company has been set up to specialise in IBM systems products. Software International Company is based in London.

Simple accounting

MOST suppliers of accounting software boast of its sophistication: Mike Lewis Consultants of Hampstead claims to have produced the simplest product on the market. BookKeeper runs on any CP/M-based micro, and costs £300.

Ada compiler

US software house Telesoft has implemented its Ada compiler on the DEC VAX supermini, IBM 370, and plug-compatible machines. It runs on CMS by use of an interpreter, which is translated to native code at the time of execution. On VAX machines compiled code can be generated at up to 500 lines per minute, claims Telesoft. The Telesoft-Ada compiler is also available on equipment based on the Intel 8086/8 and MC68000 chips, and the IBM Personal Computer.

A town with a past for the company with a future

Expanding Hastings

The Hastings Borough Council has land available for industrial and commercial development. For details phone Bill Cobb on 0424-428306

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PROFILE

Harp calls the tune in her $36m business

IT HAPPENED to be computers that German-born Lore Harp turned her hand to when she co-founded Vector Graphics in California. She would probably have been just as successful had it been peanuts.

Harp is not a technical person. In 1976, at the age of 32, and with two children growing up, she felt ready to go back to work. "My former husband had a memory board," she says. "I was surrounded by microcomputers, and picked up the idea almost by osmosis.

"I was not interested in writing programs, but I was always looking for business opportunities."

So for $6,000 Harp and another woman, Carole Ely, founded Vector Graphics and began production in a bedroom. Since then, she has presided over one of the fastest growth stories in the computer industry, and last year Vector turned over $36 million.

In 1985, Harp aims to take $200 million, and recently launched her company into Europe with twin centres at Windsor and Dusseldorf.

Now Harp is chief executive officer and chairs the board of directors, while Ely is senior vice-president of communications.

Vector specialises in business microcomputer systems, which it sells through a worldwide network of dealers supported by a communications system called DealerNet. The aim, says Harp, is to drive a wedge between personal business computers, and bigger minicomputers.

Vector boasts a couple of firsts in the microcomputer business. It claims to have been in 1979 the first microcomputer maker to adopt the CP/M operating system as standard. And in 1980, its Vector 3 computer was the first multi-user micro with dual processing packages.

Now the two main products are the Vector 4 standalone workhorse, and the Series 5000 multi-user eight and 16 bit systems, both announced at Hanover.

In 1979, Vector for the first time sought outside capital and raised $750,000 for future growth. Then in October 1981, it received its full baptism by going public.

This raised $13 million from about 10% of Vector assets.

Harp became a US citizen a few years ago. "I found I was following US politics and policy," she explains. She went over to the US from Germany in 1966.

Clearly business comes easily to her. She vehemently denies she is a workaholic, and pins her success on common sense – although perhaps not that common, she adds on further reflection.

"I find working a great deal of fun," she says, "hiring people, creating recognition in the marketplace. One thing leads to another."

With a degree in anthropology, followed by a term in art school, Harp did not look set to ride the buck to the bank. Yet she is not at all surprised by her success. Her business acumen was probably inherited, she says, and it simply took her a few years of drifting around to find where her true talent lay.

Harp places great faith in Europe, which she believes will restore Vector's growth curve to its original steepness.

HARP . . . From memory board to multi-million dollor empire.

PLATFORM

For I dipt into the future,
For as human eye could see,
Saw the vision of the world,
And all the wonder that would be.
Tennyson

The technological revolution won't happen all at once

From Brian Manley's inaugural address as chairman of the Electronics Division of the Institution of Electrical Engineers.

THE informatinn revolution is expected to bring about social and economic changes rivalling those following the industrial revolution of two centuries ago.

It seems to me that we should question with a critical mind whether the undoubted technical marvels that continue to emerge are of unambiguous benefit; whether we are ready and able in adopt them; and, if we do so, what will be the social impact.

The markets for information systems are developing fast. However, there have been excessively optimistic forecasts of the speed with which new technology will be adopted. Typical of this has been the exaggerated expectation for Prestel. But Prestel is not a failure; it is we who have failed to recognise the factors which determine change.

While the "push" is provided by the advance of technology and the "pull" by the demand of the customer, the speed of change is moderated by the money which is available and the readiness of society to change its way of doing things.

Looking first at information systems in the home, we can trace the progression from monochrome TV in the Sixties, through colour TV in the Seventies to today's massive growth in video cassette recorders. There has never been a period when the actuality and prospect of new services in the home has been so varied or prolific; suddenly, for the Eighties there is a collision of opportunities.

The consumer is unpredictable. Two years ago, few people would have forecast today's dramatic growth of the video cassette recorder market. It is far more difficult to assess the future success of all the new home information services which are available today and promised for the future; but they cannot all succeed.

At present, the consumer's choice seems fixed on entertainment, but a useful pointer is provided by the market for Ceefax and Oracle.

From 1976 to 1980 a total of 100,000 TV sets incorporating teletext were sold. In 1981 alone the figure doubled to 200,000 sets, while so far this year 30% of all large-screen colour TV sets sold incorporate teletext.

The price, though falling, is still significant, so there is little doubt that demand for this simplest of all home information systems is growing fast.

The market for small computers has grown astonishingly quickly. I believe that the key to their widespread use lies in the schools; by the end of this year virtually all secondary schools will have at least one, while a significant number of primary schools now have their own micro.

When these numbers grow by an order of magnitude, as they must, we will see a generation ready to change the nature of information systems in the home.

Turning to the office, we observe that there are about 60 million office workers in the world today concerned with collecting, collating, manipulating and transmitting information. And in the UK there are as many filing cabinets as office staff employed.

It is possible to improve the effectiveness with which we handle the inevitable flow of paper. It is in clearly-defined applications of this kind that industry and commerce show little reluctance to invest in information technology, and we have concentrated our R&D on such defined tasks.

If we presume that the impact of technology will follow similar patterns to those we have seen in the past, we can forecast a society little changed from today. Employment patterns in this country have changed steadily in the last 30 years, despite the dramatic developments which have occurred in that time.

The most striking feature of this picture is the consistent upward trend in the proportion of non-manual jobs, particularly the surge that has occurred from 1950 onwards. Yet this is a period in which the introduction of computers was forecast to remove jobs.

Warwick University's forecast to 1990 shows a reduction in total jobs but a continuing rise in non-manual jobs, with a trend away from manufacturing and an increase in the proportion of non-manual work to some 60% by 1990. This view of the impact of new technology suggests that, like its predecessors, it will be neutral in effect.

At the other extreme, if we were to accept the Japanese fifth generation programme as the pattern for the Nineties, then the changes that we face would be truly profound.

There is little doubt that the programme's objectives will be met – if not by 1990, then during the decade after that. The scope of electronic systems will thus be enormously widened.

Brian Manley is group managing director of Philips Business Systems.

DOWNTIME

Secret of the Japanese success

IT has to be said that the Japanese fifth generation computer project has come in for a lot of stick. Some US cynics have chastised it as a smokescreen to cover up a Japanese invasion of contemporary technology.

Others describe it as the guilty conscience of the Japanese emerging after years of plagiarising Western ideas.

There is probably a grain of truth in both theories, but the Japanese are certainly promoting it, rather touchingly, as the repayment of a great debt to Western innovators.

"We want to give something back to the West," a prominent member of the Japanese fifth generation élite told me at a conference last summer.

Yet the Japanese seem still to suffer from an inferiority complex about their creative skills. So much so that in an address to a recent London conference, Fujitsu director Yukimaro Kawatani referred to a recent survey in which young Japanese people were found to be more intelligent than their American or European counterparts. Japanese youth between the ages of six and 16 clocked up a staggering average IQ of 111, as opposed to 100 in the US.

"I hope this will lead to more innovative research from young Japanese and more creative co-operation with your countrymen in the future," Kawatani assured us.

Sadly I fear Kawatani has made a premature leap on to a bandwagon before making sure where it is going. IQ tests are bunk to us here at Computer Weekly, but I don't mind betting that the sort of creativity Kawatani is talking about comes from people with average IQs considerably higher than 111.

Dare I put it to you that the results of this IQ survey give no promise of more innovation from the Japanese, and instead confirm what we knew all along – that they possess a high collective intelligence, but do not produce many geniuses.

That is why they are so good at big business.

Nothing new

"IT has been a long time since nothing new has been introduced in low-cost printer technology," proudly announces an ad for an Olivetti printer. An interesting statement since it is at once both true and false.

William Caxton introduced nothing new in cheap printers, and that is indeed a long time ago. Yet nothing new is being introduced all the time – especially in the printer market.

Those paper tycoons!

FLEET STREET earns its bread and wine from news, comment and opinion being readily available. But you could be forgiven for thinking otherwise after tangling with the computer typesetting departments of those newspapers that have managed to persuade their unions to accept new technology.

The reaction of the *Daily Mirror* to the request of my media correspondent for an interview was depressing. By all means come along, but we must read your story before it is published, was the reply.

Hardly a way to run a newspaper. The *Daily Mirror* would not be the *Daily Mirror* if Margaret Thatcher was allowed to read comments before publication.

The reaction at *The Times* was beyond belief. My correspondent was greeted with a general criticism of journalists and how they always misrepresent what people tell them – and this from the man responsible for seeing *The Times* safely to bed every day!

He soon dismissed my correspondent with the words: "I don't like this interview."

The obvious reply was not made.

But my correspondent was recently reassured to learn that his unhappy experience has been shared by a more illustrious journalist.

Regular viewers of BBC's Nationwide programme will not have forgotten how Defence Secretary John Nott replied to Sir Robin Day's irreverent question: "Why should the public believe you, a transient here today and I may say so, gone tomorrow politician?"

Nott's retort was: "I'm fed up with this interview. This is ridiculous." Then he flung down his microphone and stormed off.

Such moments teach more than a year of run-of-the-mill interviewing.

Lonely

AUDIENCES of one are commonplace in Vatican City. Less well known is that computer companies often entertain them.

The setting is a company boardroom or lecture theatre. The occasion will usually be a final rehearsal, often conducted in full battledress, for a Press release.

It can be quite disconcerting for the journalist concerned to walk into a room complete with slide projectors, panel of experts and demonstration terminal, when all that was wanted was a preview of the impending announcement.

Not a bit like sitting along to the Hammersmith Odeon while the Rolling Stones tune up the crowd.

Generation gap troubles the delegates

DELEGATES descended on the BIS conference on fourth generation languages in the hope that they would learn how to solve their backlog problems. But first of all they had to learn what a fourth generation language is. Some of them did not seem to know.

I asked several to define it, and the answers I received were various. One said it was a new kind of language, another that it was an old type of language about to be superseded by the fifth generation, while yet another said that it was not a language at all, but a tool.

Even one of the speakers at the conference, Terry Booth of Incom, admitted that he had worked with them for years before learning what they were.

10 YEARS AGO

FROM COMPUTER WEEKLY OF OCTOBER 12, 1972 . . . ICL capped a good year in Poland with an order for £1 million worth of enhancements to United Polish Shipyards' System 4/50 and System 4/70 . . . IBM announced the long-awaited 370/125 followed by the 3886 OCR reader . . . The BCS accounts still showed a deficit of £5,951, the residue of the £67,000 loss for 1971-2.

Liveware File by Don

ComputerWeekly
Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS
Thursday, October 14, 1982

Whither the Alvey Report?

THE Alvey report is here. Not with a bang but a whimper. At least that is the impression one would get if the importance of Alvey's "Programme for Advanced Information Technology" were judged by its reception in the national Press. Alas, on the day the Alvey report was released the businessman's daily bible, the Financial Times, was not published in the UK due to an industrial dispute. And with only a single article in the other quality dailies and nothing in the Sunday papers, the Alvey report did not seem to be an event that we should take very seriously.

But what of the Conservative Party Conference in Brighton. Surely the government, which has put most of its eggs in the rosy basket of information technology, would give more than passing notice to the report which promised to outline our response to the Japanese threat.

Think again. It was as if the report had never been given. On Thursday last, the day after the report was officially issued, Industry Secretary Patrick Jenkin and Employment Secretary Norman Tebbit addressed the Conservative Computer Forum in Brighton. To a rapt crowd they promised that the firms that keep up with technology are the ones that keep their people in jobs. This government, Jenkin said, had more than doubled expenditure on new technology since it came to office.

And £1 billion would be spent in the next three years under the Science and Technology Acts. But nary a mention of Alvey.

Perhaps the £350 million programme that Alvey is recommending over the next five years is too piddling a sum to take notice of. After all, losses at British Airways are reported to be soaring towards £550 million a year, while losses at the British Steel Corp are nearly in the same league.

Alvey's task was impossible in the short time allotted to him. With over 100 organisations giving "substantive input" to the Committee, it is not surprising that the report settled on a broad brush picture of what is needed. The report lists a number of bodies it would like to see set up – a Software Production Centre, a National Quality Control Centre, and a Software Products Brokerage Scheme to name three. But the report raises more questions than it answers in terms of the actual mechanism for getting the programme for Advanced Information Technology up and running.

Which brings one to the key section of the report: Management of the Programme. The report recognises that a lean and dynamic management is necessary to avoid the creation of yet another government bureaucracy. The individual to head the programme should be recruited from industry and have at least under-secretary rank and have direct access to Ministers. His authority would be all but absolute.

If the Alvey proposals are accepted by the government – which is no sure thing – selection of an individual to head the project will be the most important element in both its short and long-term success. And a project director recruited from industry will be the most likely way to ensure co-operation from industry in supporting the kind of collaborative ventures the Alvey Committee has in mind.

Alvey has surprised a number of people who were preguessing the content of the report by putting the emphasis squarely on immediate commercial exploitation of products. There is to be money for university research – some £57 million over five years – and a number of cracks are taken at the government's education policy. But the role of industry is put in the forefront.

We hope the quiet response to the report is a sign that many people are reflecting deeply on its implications. Alvey has not come up with any perfect solutions. But he has produced a framework which is waiting and ready to be built upon.

We await with interest to see how quickly the government accepts the challenge to back its own vision of the future.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by Brian Dagnall of Lymington, Hants, who wins £5.

Faced with a water bill for £750,000, Gwent County Council, in South Wales, has instructed its employees at the council offices to reduce the flushing of lavatories as an economy measure. Use of lavatories will in future be monitored by computer.

The Times

LETTERS

What does Tops know about IT?

I WAS interested in your front page report on the IT82 controversy (CW, September 30). The figure of 98% – given as the proportion of the population ignorant about IT – has decreased, I hope, but there are still government agencies, such as Tops, unaware of the implications of IT.

In June this year I joined the ranks of the unemployed. Rather than sit around helpless, I decided I would make use of my time. Like many of my fellows I find I can just about keep pace with today's increasing complexity. But I'm only skimming along the surface.

While one is busy developing and designing, there just is not the time for any in-depth study.

But having become unemployed, I decided to rectify the matter. With an honours degree in electronics and ten years' experience behind me, I decided to go back to university and take an advanced degree. I applied to Surrey University for a place on its MSc course in systems engineering. Some time later, in spite of the high competition for places, I was pleased to be offered one.

I applied to Tops for funding, and expected this to be merely a formality, especially as this is Information Technology Year. Not so, I was turned down or, more exact, the course was – I was offered alternatives. The course had been looked into and was considered unsuitable. Several others had been refused funding for this course.

Several attempts have been made to discover why this course is being refused funding, but so far they have proved unsuccessful.

The civil servant who took the decision was contacted, but he refused to discuss the matter.

Going back to the "alternatives", these proved to be little more than diplumss in electronics, of little use to an experienced systems engineer. This confirmed my suspicions that the people at Tops are not at all qualified to take such decisions.

The implications of this are quite serious, and for me fairly obvious, because I am still unemployed and in these circumstances it is very difficult to find the sort of professional work I am used to.

I was thinking of the wider implications. Looming over the horizon are cable TV, satellite broadcasting, fifth generation computers. There is already too little industry investment in these fields. But where can companies already involved find the people of the right calibre? Is it the intention, by design or default, that the UK should drift around in some Third World backwater.

KEITH PARKINS
Farnborough, Hants.

The ergonomics debate

MAY I correct some errors in your editorial about ergonomics and the IT campaign (CW, September 30).

The London Ergonomics Group did debate the motion "This house believes that the government's Information Technology campaign is misguided in that it fails sufficiently to encourage an ergonomic approach to IT, its use, installation and consequences for work practices and job design" with representatives from the IT82 office present to speak against the motion.

Please note the London Ergonomics Group is a group within the Ergonomics Society and the motion put forward did not represent the official view of the Ergonomics Society. Your report on the front page of the same issue implied that I had put forward this motion on behalf of the Society – this is factually incorrect.

As far as the motion is concerned, it is a well known and common tactic to put forward a motion rather more strongly worded than the proponents might consider a true statement of the case – the IT82 project manager accepted the challenge in the spirit in which it was offered and an interesting and enjoyable debate ensued with Ray Dingle himself speaking against the motion.

I feel sure that all ergonomists would support me in protesting over your final pejorative statements on ergonomics. Ergonomics in the context of IT means jobs and working environments, and it could be argued that some of the major challenges in the future will be concerned with the human factors aspects of the implementation of systems and products.

Many ergonomists practitioners have already offered contributions in this area through the pages of your newspaper, and I am aware of at least one major initiative with the President of the Ergonomics Society chairing an NEC working party on human factors in information technology. Ergonomists wish to help in the implementation of IT projects, can help and are helping.

Finally, may I note, just for the record, that the motino was not carried!

JOHN WOOD
Communicationa Complex Design,
Richmond, Surrey.

Darkcrest and DEC

WE act for DEC. We refer to the letter from Nicholas Brackenbury (CW, September 23). It is, as Mr Brackenbury says, wrong to conduct a litigation through the Press. Nevertheless, we must make it clear that it is not DEC who have offered to settle the case between DEC and Darkcrest. It is Darkcrest who have twice offered to settle, both times on terms which are fundamentally unacceptable. DEC now proposes to win the case in the courts.

LINKLATERS & PAINES
Londnn EC2

The Editor welcomes letters commenting on subjects published in Computer Weekly, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.

The value of seminars

ACCORDING to your front page report (CW, September 23) Robb Wilmot, managing directoc of ICL, has slated the "IT policies of government", including specifically the funding of awareness seminars. I would like to defend these seminars, which are part of the two awareness programmes called CAD/CAM and CADMAT.

The Institutions of Mechanical Engineers and of Electrical Engineers have been charged by the government with responsibility for these programmes. They are enabling hundreds, and ultimately thousands, of senior executives in British industry to attend reasonably priced one-day seminars. They are professionally run and provide an introduction to the use of computers for design and manufacture in mechanical, electrical and electronic industries.

If CW readers would like to know more about these seminars the relevant Institutions will be keen to supply information.

A. WEATHERALL
Institution of Mechanical Engineers (Computers in Manufacture Committee),
1 Birdcage Walk,
London SW1.

Cheat is foiled

I CHEATED on your puzzle (CW, September 9) by using my scientific calculator to find the 5th root of 1,889,568. It therefore took about five seconds to identify.

I thought I would then test what was said about any number raised to its 5th power always retaining the same final digit, but for some reason or other my calculator kept yielding 247,100. 1,419,860 and 148,580 for the numbers 19, 16 and 17, so I ended up doing it the "long" way to verify what had been said.

Oh dear, cheats never prosper!

MARTIN FLETCHER
London EC4.

Facts for Executive

AS designer of the Executive computer system mentioned in your article by Maggie McLening, "Relational DBMS for 16-bit Micros" (CW, September 16), I am concerned by the inaccuracy of it. Rarely have I seen so many factual errors in so short a piece, though in all fairness I suspect that most of these errors are attributable to your source of information rather than your staff.

1. Relational database for 16-bit micros will not be available "soon" on the Oasis operating system. The Control system is dependent on the Oasis Basic compiler which will not be ready for 16-bit micros before March 1983 at the earliest. It would be rash to assume that Control would then run under Oasis 16 without some teething troubles, and our forecast is that Oasis 16 with Cootrol, Sort, Masterplan, and the many other facilities currently available on eight-bit Oasis will not be installable at end users before August 1983.

2. Sisco has not implemented Control on Oasis; Control was specifically designed for Oasis by its authors.

3. The Control database system was not developed by Phase One. It was developed by Quay Data Systems of Denver, Colorado and is marketed by Phase One. Every Control program listing states this on the first lines.

4. The Executive machine is not made by "the Computer Information Company"; it is made by Computer Information Centre Ltd which has been trading under that name for over 13 years.

5. Neither the IBM Personal Computer nor the Sirius currently supports Oasis. Oasis 16 will run on those machines some time in 1983. Future compatibility between different versions of Oasis 16 and particularly betweeo personal computers using TV monitors for output and business computers usiog serial VDUs is unpredictable.

6. The decision whether or not to launch a 16-bit version of the Executive does not lie in Sisco's hands. It is strictly a decision for CIC, though of course Sisco is free to choose whether to sell it when we do launch it. The reason given for our decision not to launch it is totally incorrect. In fact our reason is that so far no 16-bit operating system has reached a great enough degree of efficiency to make 16-bit micros operate a muld-terminal business system faster than eight-bit micros. The success with which our R&D efforts to speed up eight-bit technology are being rewarded suggests that ouc eight-bit technology will outperform any 16-bit micro for some time to come.

7. Sisco has not integrated word processing into Control. This unique and immensely powerful blending of information retrieval and word processing was developed entirely by CIC.

8. I can't imagine how Mr O'Brien came to quote £5,000 as the end user cost of a 5-user Executive system. According to my price book, that figure would be about £18,000.

9. Our combination of database and word processing techniques has been installed in many organisations, but regrettably they do not include three major banks.

DAVID SHIRLEY
Managing director,
CIC,
Letchworth.

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SMITH . . . Live beer needs flexible software.

Smoothing flow of London's ale

SMALL users rarely sit on the fence when asked what they think of their hardwares. They either commend or castigate.

No exception is beer agency Alan Greenwood, which is now happily married to a microcomputer system made by the UK company Bonsai. Greenwood's owner Mervyo Smith is full of praise for his dual disc system, which provides nominal ledger, purchase ledger, reports and accounting.

"The main factor is the flexibility of the software," he says. Smith adds that he looked around at several rival microcomputer systems – and was not impressed by what he saw.

The idiot factor loomed large in Greenwood's choice of Bonsai.

The system went live in April, and Smith was unable, or unwilling, to keep a manual system running until the online one could be certified free from bugs.

"I don't believe in that sort of thing," says Smith. "It only accommodates the program's inefficiency."

Appareotly the Bonsai system footed this bill admirably. "The computer helped us a lot," Smith enthuses. "It can be operated by part-time people, and of all things, I've done the training."

Greenwood is one of the UK's biggest retailers of real ale, although it covers only the Greater London area and Surrey. "We offer beers available nowhere else in London," says Smith.

Greenwood offers over 60 different real ales at its London stores, which are really extensions of the standard off-licence, but cheaper. The ale is dispensed directly from cask into special plastic containers. This is particularly handy, says Smith, for sporting events at which bottles and cans are banned.

A live product like beer needs carefully planned deliveries, and in Greenwood's case these are concentrated at certain times of the week. This places a load on the ledger programs, says Smith.

"The original program assumed that the deliveries were spread over a period," he says. "We found that a lot of searching went on. We discussed this with Bonsai, and the program accommodated this at once."

Sparing the programmer a despised chore

ONE Cobol programmer who does not seem to resent being kicked upstairs into systems analysis is Simon da Costa of Data Logic. His job is to help develop IBM commercial Cobol systems based on Data Logic's new ReadyCode package.

ReadyCode is a Cobol system development tool, but unlike many so-called system generators, it is not an ultra high-level language that compiles into Cobol code. Instead, it offers the accumulated wisdom of many Cobol programs already written. This is stored as code in a library which was built from parts of Cobol programs commonly used.

ReadyCode was originally developed in the US by Data Logic's parent company Raytheon, and is a whole application and support service at the company's Woking centre.

Da Costa describes himself as a Cobol programmer, but with half the code needed for most applications already written, he spends a lot of time on design.

The library of re-usable code has its logic well documented, sparing the programmer a despised chore. "The programmer never uses documentation," da Costa says.

ReadyCode allows unique code for the current application to be integrated with existing code. For some applications, only 10% of the code has to be written, the remainder being drawn from the library.

But da Costa does not miss his coding, believing that the creative aspects of it remain. "I found initially people were concerned about it. They thought it would be too standardised and formal," he says.

"But once people have used it a while, they seem to come round. When they see the code, they think. 'I'd not do that', but the chances are it's their program that's wrong."

I had to press da Costa hard to find a criticism of ReadyCode, and even then it was only a mild one: "The only thing I might slightly change is the requirements section, which is sometimes fiddly."

DA COSTA . . . Happy to have his Cobol written for him.

RIBBINS . . . Engineers have much to teach commercial programmers.

Future is secure for coders

THE few programmers among delegates at the recent BIS conference on fourth generation languages were no doubt relieved to hear that they are not about to be press-ganged into Thatcher's unemployed army. Far from it!

Speaker after speaker, both from the rostrum and the floor, spoke up for this evolving rather than dying category of computer person.

The fear is that programmers, especially bread-and-butter Cobblers, are threatened with extinction by fourth generation languages, better known as system generators.

But the conference would have none of it. For example, David Whiteside, managing director of Scarab Computer Services, said: "I can't imagine a user without training doing any files on your system."

In fact, users said they were sceptical of claims for ultimate system generators that do away with the need for a data processing department.

One from Westminster City Council criticised Sperry Univac for claiming its Mapper would do precisely this.

A company that completely escaped this criticism is Cincom Systems International. Its fourth generation offering Mantis has received undiluted praise from big users such as British Steel and the Ward and Goldstone Group. One even went so far as to say that Cincom had undersold the product.

But Cincom general manager Terry Booth modestly disclaims such eulogies.

And he added to the snowball rolling round the conference by saying: "Mantis is only really for end users with DP experience."

The view of the systems development team at a large organisation was eloquently put by Michael Ribbins of the British National Oil Corporation. Ribbins is manager of such a team, and responsible for technical as well as commercial systems development.

As such, he is in the privileged position of being able to compare the workings of technical and commercial systems developers.

"The commercial world has a lot to learn from the way engineers work with programmers," he said.

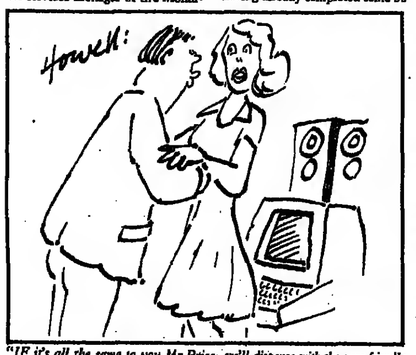
He elaborated by telling delegates that engineers play around with Fortran and Basic for prototyping, then hand over to the systems analyst and development team for tuning and integrating.

His comment is interesting because more often it is said that engineers and scientists have much to learn from the way commercial programmers work, particularly in the way of standards and documentation.

So why are jobs for trainees hard to find?

Les King, founder of recruitment consultancy Les King Associates continues his series on how job functions and job titles are changing.

DAVID HALL, technical computer services manager of the Montague L. Meyer Group, is well pleased. His two trainees, recruited just six months ago, are rapidly approaching the productivity of experienced programmers, having already completed some 30 working programs between them.



"IF it's all the same to you Mr Price, we'll dispense with the user-friendly approach."

The two lads, Glen Hill and Jeremy Russell Brown, come from quite different backgrounds.

Glen, 23, studied various computer languages at 'A' level, and for his degree, after which he worked for a word processing bureau and, subsequently, as a data editor with Extel.

Jeremy, 30, spent several years working in office management after which he completed a Tops Cobol programming course, including a month of practical experience at a user site.

When they joined Meyer, which operates a number of distributed DEC PDP-11 machines, the first task was to learn Mumps, an interpretive programming language containing powerful, in-built commands for terminal handling and data manipulation.

This was done in-house using a carefully-structured series of exercises completed under the supervision of an experienced programming team leader.

Glen, who had already used Cobol, Algol, Fortran and Assembler, found the transition to the new language easier than did Jeremy, who took a few days longer to master the new concepts and different approach to problem-solving.

Having mastered Mumps, however, Jeremy regards the language as a "quantum jump" whose sophisticated facilities make him come to work with a spring in his step.

Training was completed with a week of tuition in structured programming methods followed by a five-part program development exercise designed to provide a realistic simulation of a typical business problem.

After only six weeks, Glen and Jeremy were assigned to their first live project. This was a sophisticated financial application whose object was to record and control the group's numerous foreign currency transactions.

Working within a small team, under the team leader responsible for their training, Glen and Jeremy were soon coding and testing simple programs at the rate of one every four or five days.

Because of the small-team environment, it was also possible to learn about the business application while gaining valuable experience in the technical area.

Glen's next project proved to be a baptism of fire which taught him, in no uncertain terms, the value of a structured approach to program design.

Jeremy must have seen this one coming because he made an excuse and took a holiday in the US.

The task involved extensive enhancements to an old system which maintained the group's price lists, producing both hard copy and microfiche output.

The major enhancement of badly-designed programs is aptly described by Glen as "building a 20-storey block of flats around a semi-detached house" and he is glad that the department now operates to strict standards of program design and quality control.

Our heroes' current project is a complex system to produce group management accounts incorporating powerful structure handling facilities reflecting the diverse nature of the organisation.

Looking to the future, Glen welcomes the idea of becoming more involved in systems design which he would like to do as well as, rather than instead of, programming.

Jeremy is not yet sure of his future direction, although he feels that a minicomputer installation, organised around small project teams, gives the best all-round training for either a systems or a technical role.

From the company's point of view, how successful has the recruitment of trainees been?

According to David Hall, both Glen and Jeremy were producing useful work after only six weeks and, although they are generally given the small jobs, they make a valuable contribution to the output of the DP department.

Any future expansion of the department would certainly include the recruitment of trainees who are enthusiastic, well-motivated, cheap and easily available.

Given the high quality of training courses today, it is surprising that there are so few trainee jobs available. Although a trainee advertisement will produce a deluge of response, the experiences of companies like Meyer prove that there are some very talented candidates around.

■ Les King (01-240 7384) would be pleased to hear from any company considering the use of trainees.

PUZZLER

OUR financial analyst is always telling me that two wrongs don't make a right – but he obviously hasn't seen this week's alphametic (in which 0 does in fact represent zero):

WRONG
WRONG +
RIGHT

See page 53 for a suitable addition sum.

Workplace is compiled by Philip Hunter and Andrew Thomas.

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PEOPLE

Codex MD named head of Motorola

CODEX managing director Rod Turvey has been appointed chairman of Motorola. Codex is one of the five sectors within Motorola in the UK, the others being Semiconductor Products, Communication Systems, Automotive and Industrial Electronics, and Government Electronics.

Turvey graduated in telecommunications at London University and gained experience in the electronics industry working for such companies as ITT, AEI and GEC, before joining Cole Electronics in 1969.

He became a member of the Motorola team following the acquisition of the Codex division of Cole Electronics last year.

Turvey, a chartered engineer and member of the British Institute of Management, replaces **Mike Phillips** who has moved to a new position with Motorola in the US.

■ **Geoff Fisher** (left) has been appointed sales executive in government sales at Delta Data Systems. He was previously the company's government projects manager. He joined the company two years ago, after eight years with CMC, where his posts included London service manager and international sales engineer.

■ Technical consultant for BPS Consultants' London area is **Dominic Heffron**. He joins the company from Geisco, where he was a senior customer consultant.

■ UK systems and software house SPL International has named **Tony Yates** (above) managing director of the information systems division. ISD is one of five divisions in SPL and specialises in systems for the banking, finance, government and manufacturing sectors. Yates has been in the computing services industry for 15 years, holding technical and management positions at companies including Datagraphix, Computer Resources and CACI International.

■ Cray Research has promoted **John Carlson** to executive vice-president. He will continue as chief financial officer of the company, which he joined in 1976.

■ Nixdorf Computer has appointed two sales executives, one in the finance division in London, the second in its Manchester office. **Tony Carter** becomes account executive reaponsible for sales of the Nisbol banking system to banks and financial institutions in London. He wss previously a sales executive with Arbat UK. **Glyn Kilroe**, previously operatiocs director at Tidman Iodustrial Services, will sell Nixdorf's 8870 range of computers in South Yorkshire.

■ Real Time Control has made two sales executive appointments. **Martin Bropby** and **Kevin Parry** join the company's Southern region. Bropby was formerly with the Berkel Group, while Parry was a technical salesman in the shoe industry.

■ UK sales and marketing manager at Perkio-Elmer Data Systems is **Brian Hanley**, who was formerly with Honeywell. Fred **Mascarenhas**, who has been with Perkin-Elmer for three years, has been promoted to UK product marketing manager.

■ **John Banks** has taken office as president of the Institution of Electrical Engineers (IEE). He replaces **Sir Francis Tombs**. Banks is technical director of BICC and was elected deputy president of the IEE in 1980.

■ Evets Computers has appointed **Robert Underwood** as an account manager. He was previously a sales executive with General Automation.

■ Cifer Systems has appointed **Derek Laister** as South-west regional manager. He was previously a sales executive with Modular Computer Systems.

■ **Clive Brooke** (above) has joined Peachtree Software International as special projects manager. He joins the company from Storegate Computing, where he was technical manager. Before that he spent three years at Marcol Services, following a period as self-employed consultant.

■ Prime Computer has announced two further appointments to its UK sales force. **John Alsop** has become sales executive in the company's Central branch, based in Milton Keynes. He has been with Prime for four years, latterly as a senior systems analyst working in the company's Bedford office. **Keith Palmer**, who joins Prime as a senior sales executive, previously worked for four years at Sperry Univac ss s major systems salesman.

■ Versatec has appointed **Jan Guesens** as director of international operations. He was formerly with Calcomp, where he was vice-president of product marketing at the company's international division based oo the West Coast of America.

■ Market support specialist at Newbury Data Recording is Ian Smith, formerly s systems development engineer with Applied Data Research, Harris and Sanders.

■ Euro Electronics has expanded its servicing department with the appoiotment of **Paul Chapman** as a service eogineer. He was previously with Marconi Avionics.

■ ABS Computers has named **Roy Thorne** as marketing manager. He joins from the Allen Computer Group, where he was in sales and software support.

■ After 10 years in sales with Pitney Bowes, Yellow Pages and Rank Xerox, **Bruce Templeton** has joined Peachtree Software International as a salesman.

■ Coventry-based software house Systems Resources has appointed **Ian Morley** as a computer consultant. He joins the company from Birmingham City Council, where he worked in the Treasurer's Department developing general local government systems.

■ New systems consultant at MSA (Management Science America) is **Pauline Walker** (above). She joins the company from Roche Products, where she was financial accountant, working on a project implementing the MSA General Ledger package.

DIARY

OCTOBER 16
Symposium. BCS Medical Group/Institute of Medical Laboratory Sciences. UMIST, Manchester.

OCTOBER 18
The European Port Data Processing Association — the birth of a concept. BCS Glasgow branch. Music Room, Staff Club, University of Strathclyde, John Street, Glasgow, 7.00.

OCTOBER 19
Database management systems on microcomputers. BCS Microcomputer Group. BCS Headquarters, Mansfield Street, London. 2.00.

Visit to London Air Traffic Control Centre. BCS North West London Branch. Numbers limited. Contact Frank Rich on 01-864 5311 ext 2359 to reserve place.

Prestel developments for business. BCS Word Processing and Office Automation Group. Prudential Assurance, 142 Holborn Bars, London. 5.30.

OCTOBER 20
Communication network architectures. BCS Data Communication Group. Chemistry Theatre, Birkbeck College, Malet Street, London. 11.00.

OCTOBER 21
Visit to British Leyland, Longbridge. BCS Birmingham branch. 10.00. Please note revised date and time. Details Martyn Davey on 021-743 4222 ext 2234.

Computer privacy and a data protection law. Speaker Pat Hewitt, NCCL. BCS London Branch. Charing Cross Hotel, The Strand, London. 6.00.

OCTOBBR 29
Jubilee dinner. BCS Birmingham, Coventry and Wolverhampton branches. The Council House, Birmingham. Tickets limited, so apply early to Martyn Davey on 021-743 4222 ext 2234.

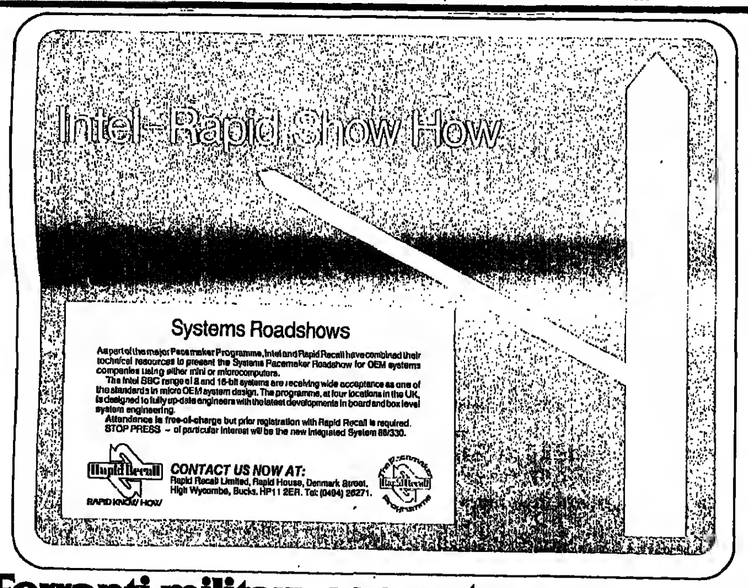
Talk by the Rt Hon George Thomas, MP, Speaker of the House of Commons. BCS and other professlooal associatiocs. Town Hall, Cheltenham. Apply early to D. Went on Gloucester 416301.

JANUARY 5-6
Viewdata. Conference on the state of the art. Institute of Information Scientists WP and computer information special interest group. Details Mrs Bird on (051) 645 2000 ext 8611.

CONFERENCES

■ The fifth Annual Meeting of the **Gould SEL International Users Group** will be held in Madrid from November 3-5. Papers will cover applications and systems techniques. A 32/27 machine will be available for demonstration, and there will be an exhibition of hardware and software. Registration fee is £90, which includes most meals, but excludes hotel. It also covers the cost of papers and simultaneous English/French translation. Details from A. Stevens or R. Johnson, NMI, Faggs Road, Middx TW14 0LQ. Tel: 01-977 0933.

■ The Northern branch of the **Institute of Information Scientists** has organised an introductory one-day seminar in the use of Bioseis. The programme will include an explanation of the Bioslis database and search strategies by Bioss staff, and an online demonstration, plus some hands-on experience. It will be held at the All Saints Building, Manchester University, on November 17. Numbers are limited to 20, and admission is free. Details and application forms from: G. Thompson, Thompson Henry, London Road, Sunningdale, Berks. SL5 0BP.



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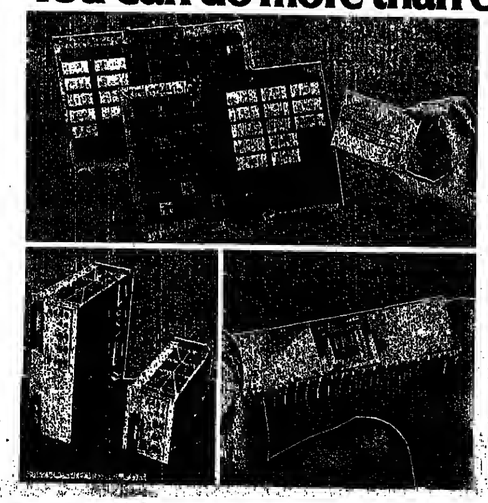

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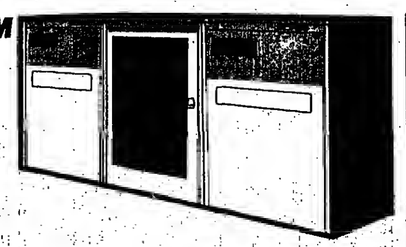

CTL Computer Technology Limited

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ELECTRONIC BANKING

A strip of plastic incorporating a data chip could soon replace the credit card in our daily business transactions . . . Jack Gee reports

France plays its 'smart card' to take Europe and US by storm

"Dear bank manager, due to a home computer error . . ."

EXCITING new prospects for the "smart card" – a rectangular strip of plastic incorporating a data chip – are opening up this autumn as it is put through its paces in a broad gamut of daily uses in Europe and the US.

Ever since Roland Moreno, a young French computer engineer became fascinated 10 years ago by PROM (Programmable Read Only Memory) chips, France's microelectronics specialists have stayed in the vanguard of the smart card's development.

Moreno patented the inclusion of this type of miniature memory device in portable objects under the name of the Innovatron firm in 1974. Since then the Preocit have never looked back.

At Vélizy, a Paris suburb, 300 householders are ordering merchandise, booking railway tickets and paying their bills by inserting chip cards into "readers" linked to video terminals in their drawing rooms.

In the US the food stamp system of relief for the disadvantaged is soon likely to be supplanted by a French smart card. France's Telecommunications Authority is installing telephone booths in which the card will replace coinage.

And the time is certainly not far off when many countries will use smart cards as passports and identity documents.

The survival of millions of cardiac pacemaker carriers and sufferers from chronic illnesses could be guaranteed when doctors and hospitals are equipped to interpret smart cards embodying the patients' medical histories.

The smart card will begin banishing cheques from many sectors of our banking system within two or three years if trial runs now under way in three French cities prove successful. The card's first role in our daily lives will be as a more flexible and secure instrument for making transactions than the credit card which most of us carry in handbags or wallets.

As customers of banks and credit organisations, we are all familiar with data-bearing cards. They are pieces of plastic on which information is embossed, punched or loaded in the form of a magnetic stripe.

But the magnetic card suffers from serious shortcomings. A thief can use it with impunity until the theft is reported, and millions of shops are advised that it is no longer valid. The limited information which it contains can also be forged with relative ease.

In contrast the smart card – a tiny computer with its own memory – is useless in the hands of a thief who does not know the owner's secret code. Only he or she can use it for instant communication with a bank account, not just to draw cash but to pay bills, transfer funds and obtain information about balances.

The chip card combines the advantages of the wallet, cheque book and traveller's cheque. It can be "loaded" with a precise sum of purchasing power which is "unloaded" by stages from its memory each time it is used to make a payment.

One of the biggest advantages of chip card technology will be to reduce to manageable proportions our society's mind-boggling consumption of paper. But the revolution which the new card is introducing into banking methods is not universally welcomed.

Many banks have invested on a big scale in automated teller and cash dispensing machines, electronic cash registers and other equipment. They are understandably reluctant to abandon this costly hardware right away, even though they recognise that the smart card will be more economical in the long run.

The French electronics industry has solved this problem. Its first mass produced chip cards are being manufactured with magnetic stripes for use in standard types of video terminals. Interface equipment is also being developed to enable the twin-technology cards to be used with existing machines.

The first full-scale field trial of smart card banking is now in full swing in three French cities where cards designed by Philips Data Systems, CII-Honeywell Bull and Flonic Schlumberger are under testing.

A group of French banks have joined forces to promote this experiment under the name IPSO. Barclays is also a partner in the venture. Philips is issuing 50,000 cards at Caen, Normandy where 250 shops and banks are being equipped with point-of-sale terminals.

The same number of cards and terminals are being used simultaneously at Lyons where Flonic supplies the cards. In Blois, a market town in the Loire Valley, 20,000 cards produced by CII-Honeywell Bull are being distributed for use in 250 terminals.

The Flonic card is exceptionally simple and uses only a single integrated circuit with a wired program which cannot be modified. This makes it less flexible than those designed by its competitors but cheaper to produce.

IPSO's purpose is to familiarise the ordinary citizen and merchant with a society in which cheques and cash will play a steadily decreasing role. Cash represents 80% of payment operations and 50% of turnover in the French economy. Cheques, whose use is increasing annually by 10%, account for 90% non-cash operations. Last year, three billion cheques were issued at a handling cost of 40p apiece, often less than the sum for which they were drawn.

Britain is among countries which are showing lively interest in the IPSO venture. So much foreign interest has been generated that bankers have created an International Association for Microcircuit Cards. Based in Paris, its other members beside Britain and France are the Netherlands, Belgian, Denmark, Austria and – more than a coincidence – American Express. Other credit card organisations are soon expected to join the banks in efforts to endow the smart card with worldwide acceptance.

The smart card's memory contains a range of security devices which are not available in any existing transactional card. It provides the correct correlation of the owner's identification number and the code of the organisation which issued the card.

A secret chip code is entered during manufacture and is permanently recorded on the chip. As a further anti-theft device, the card embodies a self-destruct function. This operates after three attempts have been made to use the card with an inaccurate identification code.

A transaction with an IPSO card is between three and five times as fast as payment at a cashier's desk by cash or cheque. The retailer enters the amount of the purchase on a point-of-sale terminal. The customer introduces his card. Then, shielded by a specially designed screen, he taps out his personal code on a separate digital pad unit. If the algorithm is cleared by the computer, the transaction is valid and a printer delivers a receipt.

While shopkeeper and customer are performing these simple steps, the transaction is recorded on the card's memory and on a cassette or cartette at the point-of-sale terminal. The cartette is a cartridge of 8 kilobits or more of non-volatile erasable memory.

Close on the heels of the IPSO trial, the smart card will soon make its appearance in French telephone booths. It will make an important contribution to French Telecom's efforts to solve the problems of fraud, vandalism and the cost of collecting 16,500 tons of coins a year.

The chip card will make phoning particularly simple for users who often run out of change while making long distance calls.

France's Telecommunications Authority has been experimenting for the past two years with a simplified card loaded with a fixed sum in cash. About 30 booths in Paris and at an Alpine ski resort have been equipped to accept this card which is thrown away when its cash supply is exhausted.

The trial has convinced French Telecom of the popularity of telephone credit cards. Surveys have revealed that 20 per cent of phone booth users account for 80 per cent of receipts. These regular customers could provide a market for a smart credit card and could be identified and billed at regular intervals in the same way as domestic and office subscribers.

Plans are ready to install 2,000 booths designed to accept smart cards by 1984.

While France's electronics engineers have been blazing trails for the smart card, her salesmen have been active in stimulating interest abroad, particularly in the US, the biggest potential market.

First Bank System of Minneapolis, which recently began a trial of Teletel, France's interactive videotex, is the homes of farming customers, is about to issue French smart cards to a selected group of clients who will be able to conduct telepayment operations from their sitting rooms.

Intelmadque, the promotional arm of the French Telecommunications Authority, is now in the final stage of negotiations with the US Defence Department to test smart cards as a substitute for admission passes to Post Exchange stores.

The US Department of Agriculture is preparing a test of French technology in Michigan which could lead to the replacement of food stamps issued to poor families by the smart card. The Department estimates it could save much of the 600 million dollars lost through fraud and misuse each year out of 10 billion dollars worth of stamps issued. It could make even bigger savings on paper processing, storage and clerical overheads.

The Pentagon is also looking into the feasibility of replacing the GI's traditional "Dog Tag" with a French smart card device incorporating his service, pay and health records.

Roy Bright, a veteran of British telecommunications and star promoter of Prestel, now occupies a commanding position in these French ventures as managing director of Intelmadque. Bright says: "The opportunities for the smart card are unlimited. Our experts are thinking up new applications all the time."

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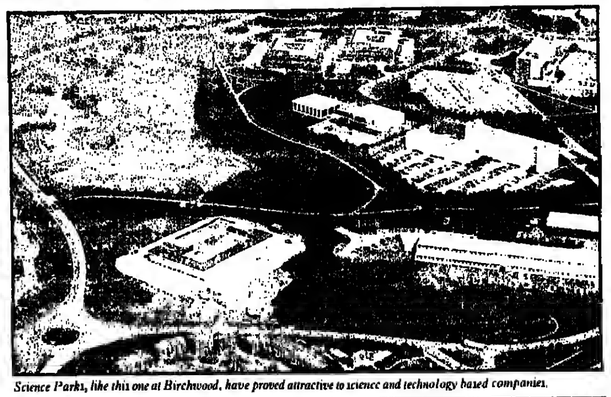
INDUSTRIAL DEVELOPMENT

Jim Horsley opens our three-page feature with a review of assistance schemes in an economically depressed area

The North-West has the people, the sites – it still wants the firms



Science Parks, like this one at Birchwood, have proved attractive to science and technology based companies.

ON THE BAROMETER of economic recovery there are few readings available from the North-West to dispel the gloom of unemployment which currently averages at around 14% and peaks at 25% in places. Many observers see the one possible stimulus for economic growth and recovery as coming from the computer industry.

Roy Smith, head of the Department of Industry's industrial promotion in the North-West, comments: "We are actively encouraging the computer industry to come to the North-West. It is only computer companies from this sector that are looking around for new sites at the moment.

"The computer industry is not going to mean a dramatic change for the 250,000 people who are unemployed in the North-West at the moment, but we need to be in this business to build the foundations for a better future."

The North-West includes the industrial centres of Merseyside and Manchester, and has a population of 6.67 million (1980 figures), double that of Wales and the same as Scotland. But what can it offer new technology industries? Smith believes that an important attraction for companies in the region's infrastructure.

"We have the locations with access to universities and the sort of facilities that people in the computer industry require," says Smith.

> **"We have the locations with access to universities and the sort of facilities that people in the computer industry require"**

Warrington and Runcorn Development Corporation was the first authority in the country to establish a commercial Science Park, specifically geared to attracting science and technology-based industries. Following the success of that venture in attracting such companies as DEC and Data General, other parks are now being established within the Warrington area and further afield.

An attractive environment and good road, rail and air communications have been vital aspects in the success of the Science Parks. Local authorities are also offering more lucrative benefits to bring in new industries.

Because it is an area of high unemployment, a large part of Merseyside has been designated a Special Development Area by the Government, while two other districts – the West Cumbrian coast and an area around Wigan and St Helens – have been given Development Area status. This means that special grants and schemes are available to some companies setting up in these regions as a way of stimulating new jobs and economic growth.

The problem for companies wanting to establish operations in the North-West is to identify which scheme they qualify for and what kind of financial assistance they can expect. As Smith points out, there are about 40 schemes in operation, and financial aid is also available from the EEC, from local authorities and from private organisations such as the Anglo American Venture Fund.

Special Development Areas, or SDAs, offer the greatest financial help, while Development Areas offer less. Regions with no classification can offer financial incentives from central or local government funds which are usually much further down the scale.

Another important factor in gaining financial help is the nature of the business. In some areas, such as Manchester, the emphasis is on manufacturing industries, and assistance is geared towards plant, machinery, bricks and mortar. In other areas the emphasis is on service industries, and financial aid is available for new staff, premises and the development of business projects.

The easiest way of assessing the grants that are likely to be available is to examine the schemes available from the EEC and the Department of Industry, and then contact the appropriate local authority to find out whether private organisations such as the Anglo American Venture Fund are prepared to provide financial assistance.

The European Regional Development Fund, established in 1975, provides financial support for the industrial sector, for artisan activities and the service sector as well as for infrastructure projects.

Of more direct relevance to high technology industry is the Community Support Mechanism in the Field of Data Processing. This is available to any company in Europe. The scheme aims to create a stronger and more competitive European DP industry and more efficient applications of data processing. Funds are available for feasibility studies, development and pilot projects.

The grants available from UK central government are geared specifically towards manufacturers and service companies, and are graded according to the status of the area selected. For example, grants are available for up to 22% of fixed asset costs for a manufacturer in an SDA. In a Development Area that grant falls to 15%.

For service companies, assistance is paid according to the number of jobs preserved or created with a maximum figure of £8,000 per job in an SDA and £5,000 per job in a Development Area. Grants are also available for essential employees moving with their work, and for feasibility studies to decide whether the move would make economic sense.

There are also various types of loans available through European investment banks.

With particular relevance to the computer industry, there are various national grants available for such projects as the development of micro applications, CAD/CAM and the creation of products and processes.

Local authority assistance varies according to the authority, and also on the status and economic state of the region. In the Warrington area, for example, the emphasis is on providing facilities rather than financial aid.

Merseyside County Council has a service scheme in addition to the Department of Industry grants. This was designed to help existing companies in the area expand, but is also used to attract new companies to the region.

The service scheme is aimed at companies with less than 100 staff. It is designed to provide a 30% wage subsidy for people recruited in the Merseyside area, and can last for a maximum of 39 weeks in exchange for a commitment by the company to rent, purchase, build or extend premises, or to purchase or lease plant or machinery.

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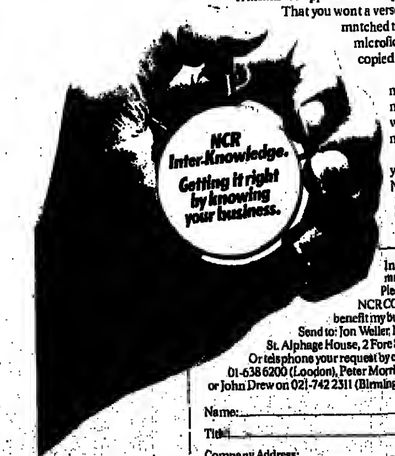

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INDUSTRIAL DEVELOPMENT

Enterprise Zones: the Tory way to stimulate business

David Casey looks at progress of the government's Enterprise Zones scheme, and says that it could offer a framework for all kinds of computer company

A CORNERSTONE of Tory economic policy is the reduction of State management in the industrial sector. The proposed privatisation of British Airways is only one of the steps being taken by the present government in this direction. The National Maritime Insitute floated away from government control earlier this month, while the National Enterprise Board took on a different guise a year ago.

The Enterprise Zones experiment conceived by Sir Geoffrey Howe in his 1980 Budget is wholly consistent with this philosophy. Economists from the free enterprise school see the inertia of government bureaucracy as the major impediment on new projects. If restraints on the business environment can be lifted, there is the perfect setting for new enterprise to bloom.

When the scheme was announced, Whitehall did not know which regions of the country would play host to an Enterprise Zone – the quota of 11 zones would be filled by applications from local authorities justifying a claim. Though the emphasis was to be on local involvement, each zone being the responsibility of local government, the incentives on offer were identical.

Ten years' freedom from rates was perhaps the main attraction on the package, because rates form an intractable overhead irrespective of a company's trading position. Central government's contribution to the EZ project was the reimbursement of the local authorities for the rates revenue lost.

Payment of industrial training levies is not a problem faced by small companies under any conditions, but the saving to a firm employing more than the qualifying number of staff in an EZ is a real bonus.

Tax allowances against capital expenditure in the zones are more generous than elsewhere in the UK. The cost of industrial and commercial buildings can be written off 100% against tax, compared with the 75% (plus 4% annual write-down) normally available. Generous allowances only have a benefit in the accounts when there are profits to cover them. On the major capital investment needed to build efficient factories in an Enterprise Zone, the anticipated profit must be correspondingly high.

Administrative benefits – including the lifting of planning requirements on schemes which fit in with the outline proposals for the zone – complete the package of incentives.

The sites selected for the pilot Enterprise Zones ranged from dock buildings with enclosed water sites to reclaimed land on a foreshore. In none of the cases could the area be utilised except at great expense.

Differences in acreage for the sites selected by the Department of the Environment raised several objections from the local authorities involved. Sir Trevor Jones, the leader of Liverpool City Council, expressed concern that the total area designated by the DoE was several hundred acres smaller than originally planned.

The fact that the Manchester zones at Trafford took 750 acres on board appeared to place Speke at a further disadvantage. "In view of the fact that their problems are nowhere near as bad as ours, this seems most unfair", was Sir Trevor's reaction.

> **"The fact that the Enterprise Zones scheme and regional industrial assistance are the responsibility of two different ministries is a measure of their independence. A future government, with a five-year term ahead of it, could consider phasing out traditional regional aid in favour of an enlarged EZ programme."**

In a letter to Tom King, the Minister responsible for the zones, he commented that ". . . the kind of regime you are proposing is so broad in its concept as to be in danger of misusing the main purpose for which an Enterprise Zone was to be established, namely the economic regeneration of the area with the encouragement of investment leading to new jobs".

Proposals to set up an Enterprise Zone are not received with universal acclaim. There were a number of major objections, for example, to the Speke project, with the Merseyside Chamber of Commerce fearing a considerable loss of jobs. Groups representing more than 2,000 Merseyside firms of warehousemen raised objections on the grounds that firms setting up in the zone would be competing unfairly with those firms established outside – a problem akin to development blight around the Special Development Areas before the introduction of Intermediate Areas.

Fifteen months after formal designation, the Speke zone has succeeded in attracting a cross-section of manufacturing and warehousing activities. Although the site contains 127 acres of unserviced airport land, much of the early development has been in existing sites which include the British Leyland Speke No 2 factory, and a redundant Dunlop works.

New units built by the English Industrial Estates Corporation (EIE) provide perhaps the best opportunity for firms in the computer industry. In the past four months, five companies involved in electronics and related activities have taken over EIE sites as small as 500 square feet.

Ironically, one of these enterprises is Cardiff Electronics, a South Wales firm which has leased 1,000 square feet for the manufacture of security doors. Coming from an area of the UK where there is a surfeit of industrial aid – through the Welsh Development Agency and the European Coal and Steel Community, for example – the company was attracted on balance by the Enterprise Zone package.

In terms of the employment objective, the Speke zone has a long way to go before it can claim success. A total of 250 people are employed by the firms that have moved to the site so far – a figure expected to increase by only 10% during the next two to three years. It will take many more enterprising companies to take space at Speke before there is any effect on the city's pool of unemployment.

With Enterprise Zones set in a 10-year frame, it would have been understandable if the government had assessed the effects on the 11 areas in the scheme before announcing the second phase. More than a year elapsed between the 1980 Budget and the formal designation of sites in Corby and Swansea as the first two zones, providing less than 18 months' experience of the principle in practice.

The Chancellor nevertheless announced, at the end of July, the government's intention to create a further 11 Enterprise Zones. Seven were to be in England with two in Scotland, and one each in Northern Ireland and Wales.

Encouraged by the apparent success of the present 11 experiments, a total of 53 local authorities in England have submitted plans for one of the new designations. This compares with the 24 councils who applied for the existing Enterprise Zones, but the interest may be due to the smaller size of the new zones – in the region of 250 acres apiece. There is greater prospect of these sites being filled to capacity within months of opening.

It is significant that Liverpool figures again in the list of applicants – on this occasion attempting to restore the scale of the Speke sites to the level originally proposed.

The fact that the Enterprise Zones scheme and regional industrial assistance are the responsibility of two different ministries is a measure of their independence. A future government, with a five-year term ahead of it, could consider phasing out traditional regional aid in favour of an enlarged EZ programme. Capital allowances are comparable, but the cost of rates compensation by the DoE would be only about half the net cost of Department of Industry capital grants.

Indirectly, the control by Whitehall over local authority spending would be increased. With further funds to withhold from a high-spending council, the government could exercise greater pressure on cash spending limits.

It is no coincidence that the majority of the zones now operating are within areas with Special Development Area or Development Area status. The DoE selected parts of the country where the need to create new employment was greatest. To withdraw the DoI regional assistance would concentrate new development over a limited acreage in each region, although help to these problem areas could be fine-tuned with greater precision.

The view that Enterprise Zones would create ribbons of industrial blight, leading to a net loss of employment in a local authority, is not shared by the government. New companies setting up in a zone are seen as a stimulus for existing service industries such as printing, distribution and communications.

A programme of industrial assistance without direct capital grants is reminiscent of Conservative policy before the 1964 General Election. But the total package of incentives on offer through the Enterprise Zones is more attractive to the smaller company uncertain of securing high profit levels. It can make the difference between a company taking on additional staff, remaining the same size, or not getting off the ground at all.

The benefit of Enterprise Zone status is well illustrated by Belfast, at present the only zone designated in Northern Ireland. In common with the Enterprise Zones in Manchester and Tyneside, there are two independent sites. One area is on the North Foreshore, with ownership of the land split about 50-50 between the City Council and the Harbour Commissioners.

Reclaimed land accounts for nearly all of the site, and before it can be turned into useful industrial space, prohibitively expensive piling will be necessary. It is hoped that the rates relief will redress the balance. As a possible site for distribution, however, the Belfast Foreshote is unparalleled in the province. It is already linked to the M2 motorway and will soon be joined up with the M1 through an inner-city dual carriageway.

The second part of the zone, over in West Belfast, is an existing factory site left vacant by Northern Ireland's former textile industry. Denis Myles, the EZ manager, outlined the problem: "Although there are seven million square feet of factory space there, it does not meet today's needs. We have put a great deal of effort into encouraging local developers to construct small units."

The Rosebank Mill has already been sub-divided into workshop space, but there is still insufficient accommodation for the firms that Myles is trying to encourage. He has resisted the temptation to offer excessive space to small firms in the hope that they will grow into it – even without rates, the overheads would probably prove too great a burden. "Give them a thousand square feet in their own four walls, and that is exactly what they want," he explained.

It is exactly a year since the Belfast zone was designated. In that time, Myles and his team have brought 23 new companies into the two sites. 150 new jobs have been created, not counting any additional employment generated in service industries dependent on the companies. The employment has some prospect of security. It is based on £6 million of private investment and a further £1.5 million from public funds for roads and common services.

The whole of the province qualifies for central government assistance on a scale at least twice as generous as that prevailing on the mainland. The basic level of capital grant towards fixed assets is 30%, for example, and this figure can rise by negotiation to 50% of capital costs. Firms from outside the province are attracted by these higher regional incentives on top of whatever the zone can provide. Those already with a stake in Northern Ireland are motivated to Belfast primarily by the rates concession.

Myles sees companies involved in computer servicing and development as prime targets for the Belfast zone. "Because manufacturing enterprises receive generous support in Northern Ireland as a whole, the Enterprise Zone often few additional benefits – these firms are already 75% de-rated." He is well aware of the attractions on offer in the Irish Republic, a potential competitor for investment by computer and electronics companies.

"The incentives in the Republic have a taxation bias and are attractive to firms who see corporation tax benefits in the 15% rate as distinct from the 52% applicable in the province. Moving to the Enterprise Zone offers both a capital grant and 100% taxation allowance for all types of company. On balance, therefore, the benefits could be greater here in Belfast."

An undertaking for which the zone has provided a real impetus is Jema Computers, a four-man operation that services small computers and has developed a microprocessor-based monitoring system for use in hospital laboratories.

Alan Clarke, the firm's managing director, is adamant about the role that the Belfast EZ has played. "Had we not moved here we could almost certainly not have afforded the fourth member of staff, because the rent and rates would have prevented this," he said. "The fact that we have moved into the zone has allowed us to get off the ground rather more quickly than we could otherwise have done."

Without any premises of its own until it moved to the West Belfast in June this year, Jema Computers took over a new building which it subdivided into offices and workshop space. Does the zone have any other attractions for Clarke and his colleagues?

"We have not really thought beyond the three-year agreement on this unit. Apart from the 10-year guarantee of zero rates, we can see little benefit. Indeed, if the emphasis of the business shifts further towards development and manufacturing, there will be no net advantage."

Clarke accepts, however, that there are incentives for the property developers prepared to construct new factory accommodation.

In the hot-house conditions of Northern Ireland, the Enterprise Zone concept has every prospect of success. Translated to the environment of the mainland, the Enterprise Zone seems set to be at the centre of government regional policy for the next ten years. It provides a framework in which every sector of the computer industry could thrive and develop.

Sir Geoffrey Howe conceived the Enterprise Zones experiment.

An area of London's dockland is cleared as part of an Enterprise Zone project.

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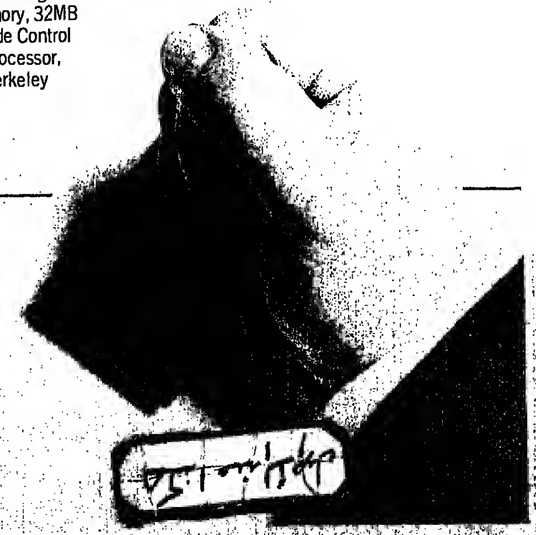

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INDUSTRIAL DEVELOPMENT

Strategies for industrial rebirth depend on the politicians' colours

David Casey examines some of the expediencies behind assistance policies

Just over a year ago this was the site of BSC's former East Moors Works. Now the wasteland is being redeveloped by the Welsh Development Agency.

FOR satire to be effective, it must contain at least a grain of truth. The BBC satire programme *Not the Nine O'clock News* parodied the Welsh Development Agency's commercial on the theme, "Made in Wales" with a list of firms which had "Failed in Wales". This is as much a warning to firms considering relocation, as it is a humorous observation in its own right.

Taken out of its immediate context, the "Failed in Wales" sketch illustrates the fact that regional assistance in its present form may not be a panacea for the nation's industrial ills. Whitehall is certainly conscious of the role that industrial development can play in the national economy, however. When unemployment was hovering around the 5% level, the UK was covered in a patchwork of regions directly supported by central government.

With employment prospects uncertain for even three times that 5%, the blanket of regional aid offers less protection. Seen by the critics of the present government as the severing of aid from deprived regions, the reshaping of the industrial development "package" rationalises the incentive schemes inherited from previous administrations.

Far from being aid available purely at a local level to assist the areas where unemployment was most deeply rooted, Whitehall's development schemes had become so encompassing in their scope that they came to dominate the Callaghan government's industrial strategy for the whole economy.

The reduction of public expenditure was a primary objective in every Whitehall ministry after the return of the Conservatives in 1979 – and the Department of Industry under Sir Keith Joseph was no exception. There was the prospect of aid to the regions reaching £600 millions by the end of 1982, if the proposals of a 1978 White Paper had been implemented. Not all of that figure would have been statutory grants paid without question. At least one-third of the total would have been allocated under "selective assistance" schemes of the 1972 Industry Act.

But the radical pruning of areas qualifying for assisted status involved more than budgetary considerations. There was an opportunity to discriminate positively in favour of those regions where the need for assistance was most urgently required. In a system of investment aid where Special Development Areas qualified for grants which were only 2% higher than those in areas with basic Development Area status, there was little incentive for an employer to relocate where deprivation was greatest.

To have withdrawn regional assistance from key areas overnight would have had a catastrophic impact on employment. The target reduction of some £220 million could not be achieved in full until the 1982-83 fiscal year if a degree of stability in industrial strategy were to be preserved. Sir Keith Joseph's plan for industrial assistance was phased over three years – the areas currently designated for aid represent the Thatcher administration's view of a policy for the regions.

Companies moving into Special Development Areas (SDAs) qualify for the maximum capital grant of 22% – a figure which has remained unchanged since this concept of "special" status was first introduced. With grants in the Development Areas (DAs) being cut from 20% to 15%, the differential has been increased to a level which counteracts the disadvantages of relocation in Liverpool or Ebbw Vale.

Paradoxically, if a company were to be influenced by the 5% cut in grant aid, its directors would be improving long-term employment prospects more by not relocating. A business whose viability is so finely balanced would have a higher chance of failing should any one economic factor move against it. If it had succeeded in expanding through a capital grant, bolstered further by selective employment assistance, the cost of failure would be measured in terms of even higher unemployment.

A consequence of the regional aid programmes of the late 1960s was that firms immediately outside zones designated as DAs were threatened. The dividing line between assisted and non-assisted areas had to be drawn at the expense of investment "blight" for those companies failing to qualify. There are examples of manufacturers building their second plant a quarter of a mile away, over the border in an SDA, and linking the sites by road transport.

The criterion for an area to receive assistance is a hard core of structural unemployment. Local skills are no longer required because the dominant industry has declined. With the running down of shipbuilding and public sector steel-making, this particularly insidious form of unemployment is more entrenched now than it has been at any time since regional aid was first introduced.

It is easy for public funding to be offered to a company in these acutely affected regions: it is less easy to alleviate the unemployment if a firm fails after over-generous support. Development authorities in the UK strenuously maintain that a company's financial viability is scrutinised before assistance is given. But a publicly funded source of aid might be influenced by the prospect of short-term job-creation rather than employment over a two-decade timescale. A fall in the total number out of work would be a bonus for a party at the hustings in the next 12 months.

Organisations on the fringe of the public sector are subject to similar conflicts of interest when they encourage firms to relocate. In the South Wales steel closure area, for example, the pressures of unemployment are horrendous. BSC (Industry) is a subsidiary of the British Steel Corporation specifically charged with creating new enterprise wherever steelmaking is withdrawn.

The organisation is deeply conscious of the long-term implications of its role, and stands aside from the assessment of its "prospects". Using the funds at its disposal, BSC (Industry) commissions independent accountants' reports which are taken as the basis for funding by public and private institutions in the UK, and EEC finance. Certainly in its Welsh activities, BSC (Industry) has a good track record to date, with computer and electronics companies surviving without further assistance.

An ironic success story for the steel industry in Wales has been Bowstrings Computer Services, now a viable distributor of Wang minicomputers. The directors of the company are all ex-steelworkers with several years' experience of computer systems. When the East Moors Works in Cardiff closed four years ago, the three men were presented with the task of calculating redundancy payments for the plant's 3,100 workers.

The atmosphere of stagnation and decline that the current jobless figures may suggest is an unlikely setting for stimulating new industrial development in an economy. There is the risk that a manufacturer in the high-technology field could be dissuaded from any major capital investment given the pessimistic forecasts from the Bank of England and independent economic observers. It is, however, in those areas of the UK economy which have suffered most from the stresses of the post-war years that the future of our high-technology industries appears to lie.

Important though the political considerations of regional policy may be for the government, a company preparing to invest its capital and resources in an assisted area is more concerned with stability and the prospect of assistance continuing virtually unchanged. Would a financial plan developed today on the basis of the Conservatives' strategy prove worthless if a Labour government, or one controlled by the Alliance, were to come into office before May 1984?

Four decades of regional policy indicate that an incoming government makes relatively small amendments to the regional policy of the administration it replaces. Borough councils in districts downgraded by Sir Keith Joseph from Development Area status might take a different view, but the 1979 changes involved an adjustment of scale rather than a radical re-appraisal of technique.

With a product having a high value-to-weight ratio – and therefore less constrained by transport costs – the computer industry is ideally placed to take up offers of assistance wherever the terms are most attractive.

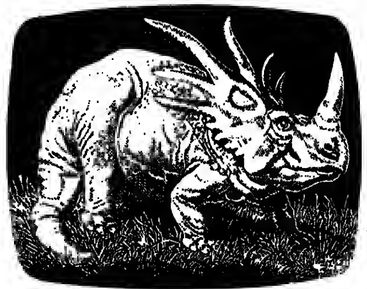
Industrial assistance is inevitably an emotive subject, heavily charged with political expedience. As soon as one sector of the economy receives more favourable treatment than another, there is a change in the balance throughout the whole economy, and not just within the area where assistance has been provided.

The trend since the early 1970s – the 1972 Industry Act was the turning point – has been towards a package of grants, tax incentives and "selective" assistance. It is this package which appears to be losing whatever effect it may once have had.

An uncharitable view might be that the policy implemented by post-war governments has not worked. Jobs are being lost from many of the assisted areas at a higher rate than Whitehall aid is stimulating new employment.

Rather more serious is the competition from other countries in Europe. The Irish Republic, with its generous tax incentives, has certainly attracted funds which would otherwise have been invested in the UK. Similar incentives, although small in scale, are taking Japanese and US investment into Scandinavia, France and Greece.

The form of the aid available from central government will certainly have to change if sufficient new investment is to be attracted into the UK from overseas. It must satisfy Mrs Thatcher's policy objective of minimum public expenditure, while providing maximum opportunities for the creation of jobs with long-term prospects.



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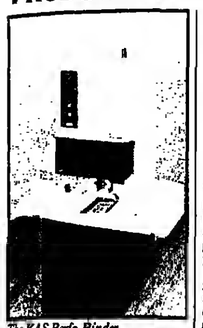


The KAS Perfo-Binder.

Bound to keep papers secure

KAS Graphics' Perfo-Binder is a compact machine which can be used to bind documents with a total thickness up to 2 inches in a simple, secure and neat way at very low cost, say the manufacturers.

This new method of binding is by the automatic production and insertion of sturdy nylon rivets of exactly the correct size for the bundle of documents.

It means that important office papers, documents and records can now be bound into sturdy volumes for permanent keeping and instant reference in 30 seconds. Since the plastic tubing used for the binding is heat moulded the binding is strong and flexible, eliminating the tearing of sheet sprocket holes when binding, for instance, computer printout. However, the rivets can be removed and papers added and rebound.

The unit can be used both for drilling or for a combined drilling/binding operation. A quick set guide assures consistent hole spacing every time. It is inexpensive to use – KAS Graphics estimates 1p per inch thickness.

Kemp Application Sales, (CW), 46-50 Coombe Road, New Malden, Surrey KT3 4QJ. Tel: 01-942 2248.

Low profile on power supply series

AUTOMATION and Power Systems is keeping a low profile on its newly-launched 130 series PSUs.

The latest in the line of units with off-the-shelf availability, the 130 unit has a depth of two inches.

The Brighton-based firm developed the switch mode unit on a custom made basis and now the 130 series is claimed to have established a reputation among electronics systems designers for compactness and flexibility.

The multi-output configuration has a range of ± 5 volts, ± 12 volts and 24 volts. The outputs can be semi or individually post regulated and there is over-voltage protection on one or all outputs.

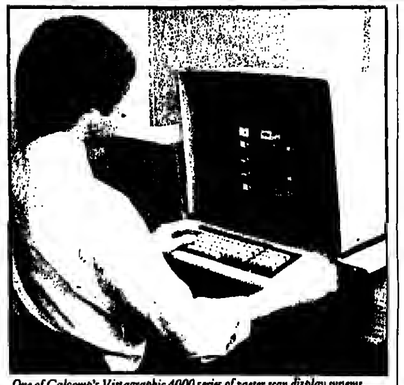
Secondary protection is available as an optional extra. Other extras offered include power failure detection and indication, remote sensing on the main output and adjustable auxiliary regulated outputs. Individual outputs may also have overcurrent protection. The units confirm to all major international safety specifications.

The flexibility of the 130 unit also extends to its shape. The APS design team will shape dimensions of the unit to fit the available space.

APS specialises in standard and custom made power supply units.

Automation and Power Systems (CW), 6-8 Foredown Drive, Portslade, Sussex, England. Tel: (0323) 897469.

Powerful range of raster scan graphic displays



One of Calcomp's Vistagraphic 4000 series of raster scan display systems.

GRAPHICS and CAD systems specialist Calcomp has introduced a powerful new range of raster scan graphics displays called Vistagraphic 4000.

Utilising dual MC68000 16-bit microprocessors and incorporating a 19 inch colour or monochrome display, Vistagraphic 4000 is available either as a standalone graphic computer system or as an intelligent display terminal for use in a distributed graphics processing environment.

The range is designed to suit such applications as CAD/CAM, process control, mapping, engineering and scientific analysis, simulation and training, and command and control, states the company.

"Initially," says Roger Hewitson, Calcomp managing director, "our intention is to offer the Vistagraphic 4000 range for sale primarily to the OEM market.

"Our pre-launch marketing activity," he adds, "has shown us that there is tremendous enthusiasm from system integrators for a product with the advanced features provided by this new display range and a number of negotiations are already well advanced, even at this early stage."

The Vistagraphic 4000 range comprises three series – the 4200, 4300 and 4400 Series – covering 11 different models, all of which share the same basic software, hardware features and user interfaces, providing compatibility across the entire range and a choice both of display resolutions and the number of simultaneously displayable colours.

While the bottom of the range 4200 Series has a display resolution of 640 x 512, refreshing at 60 Hz, the mid-range 4300 has a 1024 x 768 resolution refreshing at 45 Hz. Both of these, says the company, are non-interlaced displays.

At the top end, the 4400 Series provides 1024 x 1024 display resolutions refreshed at 60 Hz, interlaced. All three series can display up to 256 colours simultaneously, these being selected from a palette of 4,096 colours.

According to Calcomp the Vistagraphic 4000 family includes a number of state-of-the-art features as standard which provide significant advances over other raster scan graphics systems.

For example, the new displays all utilise dual MC68000 microprocessors to provide efficient, high speed operation. One of these is used as a system processor, handling all I/O functions and display list management.

Calcomp (CW), Cory House, The Ring, Bracknell, Berks. Tel: (0344) 50211.

First in videotape series

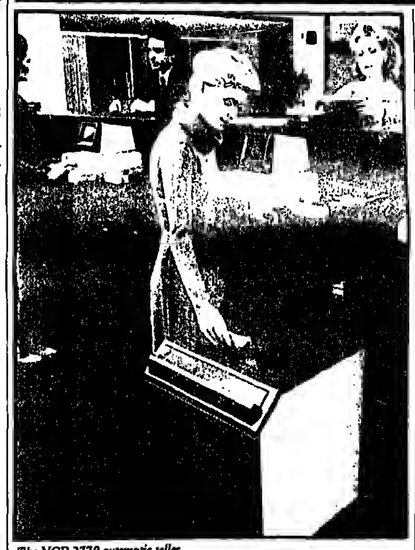
THREE educational videotapes now available from Amdahl in the UK are the first in a series planned to maintain state-of-the-art awareness of the latest product/hardware/software developments in the IBM/PCM mainframe area.

The aim is to enable data centre staff to benefit from a full education package which to equal would otherwise need expensive research or involve time-consuming absence at special courses. Full written back-up material is provided.

The tapes so far produced, under the general title of Keeping Current, are: "ACF/VTAM – Selected Topics"; "VSAM Performance", and "IMS/VS Performance, Selected Releases", dealing with the results of studies of current releases.

Prices of these first tapes are respectively £220, £220 and £190. Further titles are planned for release over the next few months.

Amdahl (UK) (CW), Viking House, 29-31 Lampton Road, Hounslow, Middlesex TW3 1JD. Tel: (01) 572 7383.



The NCR 2770 automatic teller.

Automatic money

THE NCR 2770 is a teller device that automatically dispenses currency at the teller workstation. It operates in conjunction with the recently released NCR 2262 Teller Terminal to improve cash control and assist with the time-consuming job of handling paper money.

The 2770 can accommodate up to six denominations and can be shared by two tellers. It provides fast, accurate and reliable customer service and has a number of built-in security features, says NCR.

The dispenser performs a series of tests to ensure that the correct number of notes is dispensed. If any one of the tests fails, the notes are passed to a reject cassette and the transaction is repeated. When all detection tests are satisfied, the bank notes pass a single bundle to the teller delivery area at the top of the dispenser. The teller than passes the bundle of notes to the customer.

Currency cassettes provide a convenient and secure method of loading notes into the dispenser. Each cassette contains a single denomination and holds a 250mm stack of new or used notes. The dispenser takes a maximum of six cassettes of notes.

NCR (CW), 206 Marylebone Road, London NW1 6LY.

Calculators for busy office

DESIGNED for heavy duty use on an active office desk, Casio DR110 and DR120 are a pair of calculators with clear green phosphor displays and two-colour printing. Both are mains powered machines with features like 00 key, multi-function percent, independent memory add mode, item count, several decimal point ing options, subtotal, total and grand total accumulation.

Ten-digit Casio DR110 has a recommended retail price of £75, 12-digit DR120 £85 (both exclusive of VAT).

Casio Electronics Co (CW), Unit 6, 1000 North Circular Road, London NW2.

Fast updating for microfiche reader

REALIST'S latest microfiche reader, the 414, has two new features – a wood grain design and interchangeable carriers for fast updating.

This full-size COM and source document reader has a modern wood grain finish which blends in with the decor of most offices.

The Realist 414 is available in either a 110-120 volt or 220-240 volt model. The new reader is marketed by Realist dealers in Europe, Central America, South America, Australasia, Asia, the Middle East and Africa.

Realist makes it possible to create the reader for any application. The 414 can be purchased now, with all the standard features, and the options can be added later. This makes the system flexible and easy to adapt to new requirements.

The newest feature is the interchangeability of the Realist 414's carriers. Anyone can remove the standard carrier and insert the optional 4 x 6 dual carrier – and that means no costly service charge.

Once in position, the 4 x 6 dual carrier allows the operator to cross-reference two different fiche simultaneously.

The 414 also has instant image location with the exclusive Hi-light indexing system. A unique point of light marks the precise location on the index grid, thus giving high-speed access to the exact frame.

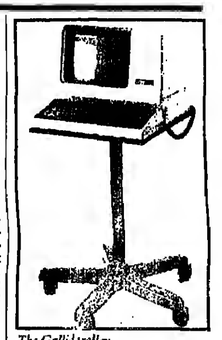
Single or dual lenses for the 414 are interchangeable and are available in 24X, 42X or 48X magnification. A flip of a lever is all it takes to change the magnification on the dual lens unit. Each reader is equipped with a dual lens holder that allows for easy conversion to a dual lens system at any time.

The 414 is claimed to give constant focus control with less adjusting and easier viewing. The lens system floats on the upper carrier glass.

A transparent yellow line guide on the screen helps zero in on needed information without obstructing the operator's view.

Lamp changes and carrier cleaning are simple to perform on the 414. A module drawer, located in front of the reader, contains the lamp, transformer and carrier and is easily removed.

Realist Micrographic Systems (CW), Megal Drive, Menomonee Falls, Wisconsin 53051. Tel: (414) 251 8100.



The Gallid trolley.

How to keep your desk uncluttered

A SIMPLE solution to the problem of a VDU or typewriter or Prestel unit cluttering up further an already cluttered desk, in the form of a made-to-measure versatile trolley, comes from Gallid.

One basic trolley can be customised to the specification of the user through the use of an individual footprint to match up with the base of a VDU and keyboard or similar equipment ensuring secure location of the equipment. The trolley is also designed to ensure that the VDU keyboard is located at the correct operating height.

The trolley has a robust construction and the urethane 5-star base ensures that it will retain its elegant appearance, says Gallid.

The trolley is supplied in easy to build knock-down form and Gallid says that by carefully following the assembly instructions it will give years of service.

Each trolley is supplied with a length of flexible conduit and fixing clamp. This ensures that the interface and power cables on computers are neatly kept together when using the trolley for a VDU.

An update service will also be available so that when a user changes his VDU or other equipment he uses the trolley for, Gallid can supply a replacement footprint at modest cost.

A five-year guarantee against manufacturing defects is also given with the purchase of each trolley.

The recommended end user price for the trolley is £69.50.

Gallid (CW), 1 Bilton Road, Rugby, Warwickshire. Tel: (0788) 74443.

The Realist 414 microfiche reader.

BOOKS

What every computer trainee needs to know

Concise Encyclopaedia of Information Technology, Adrian V. Stokes(Gower), £17.50.

WHILE debate continues over whether Information Technology (IT) Year has benefited the computer industry in real terms, few could argue that it has not been at least worth its weight in books.

Publishers have seized the chance to produce many volumes that were overdue for the industry anyway, under the IT Year banner, which will help to guarantee publicity for the launch and subsequent display in shops.

It has also meant that many books that might not otherwise have seen light of day have been published, but Adrian Stokes' encyclopaedia definitely belongs to the former category.

The majority of dictionaries and encyclopaedias of computer terminology stop short at the slang terms in common use in DP departments, and also ignore names of products from manufacturers, but Stokes includes many which have come to represent a type of product more generally – CAFS for example.

STOKES . . . Information every trainee should have.

Where necessary, the explanation is illustrated by a diagram and/or an example, but in most cases the definition of the item is so clearly described that the reader has no need of either.

One aspect of the book I found somewhat confusing is that some acronyms and abbreviations appear in both the main section and in Appendix A, which is officially for acronyms and abbreviations, but not consistently. A reader who is unaware of this might well give up after searching through only one section, or be under the impression that they are all mixed in with the main section.

This is an excellent, compact book filled to the brim with the sort of information that every trainee in the computer industry should be handed on day one.

Maggie McLening

Fails to dispel the mystique of programming

Mastering Computer Programming. P. E. Gosling Macmillan Master Series 212pp. £8.99 hardback. £2.95 paperback.

THE microcomputer revolution has provided the stimulus for a flood of books on the Basic programming language. Despite its title, this is one of them.

As I know from personal experience, explaining even the basics of computing to the layman can be extremely difficult. Unfortunately, Gosling's book is unlikely to dispel the mystique which surrounds the subject.

Although the book is supposedly suitable for individual study or classroom use by, among others, someone who has just bought his first computer, I feel it is rather advanced for the man in the street, and more suitable for the college student. Nonetheless, the author's approach is practical and his style clear and readable.

He begins by explaining what a computer program is, and introduces machine-code and assembler programming. ACE, a teaching language invented by the Open University, is used as an introduction to high-level languages. The Basic language is dealt with thoroughly in 160 of the book's 212 pages.

One of the difficulties confronting authors of Basic textbooks is which of the many versions of the language to use. Gosling avoids this problem by not using any particular Basic in the book.

Compilers and Interpreters is a particularly useful chapter, as is Bug Hunting, which covers many of the mistakes beginners are prone to make.

Only three of the many other programming languages (Fortran, Cobol and Pascal) are dealt with.

Alan Stewart

Introduction to data dictionary systems

Developing a Data Dictionary System J. Van Duyn Prentice-Hall, 204pp.

A DATA dictionary can be employed in two basic ways. First, it may be used purely as an end user facility to help computer users sort out their data management problems. Second, it may be embedded within a database system where it acts as a primitive building block that supports the overall functioning of the DB.

Accepting the positive utility of data dictionary systems, techniques for their development should be of interest to many who are likely to become involved with this type of tool. This text describes the various mechanisms and procedures needed to develop a data dictionary system (DDS).

Chapters 1 and 2 cover introductory and historical material relevant to an understanding of file management systems and databases. The two following chapters then introduce the idea of a DDS. chapter 3 defines the meaning of the term while chapter 4 extols the potential benefits of using such a facility.

In chapter 5 more detailed descriptions of the function, uses, contents and types of DDS are presented. This is followed by chapters which outline the initial factors to be considered and the steps involved in implementing a dictionary system. Two approaches are described: building an in-house system from scratch and installing a commercially available package. Having outlined implementation techniques the author then discusses an example of an operational system developed via the in-house approach.

Typical applications of a data dictionary system are dealt with in chapters 9 and 10. Two important aspects are covered: system development (analysis, design and implementation) and system maintenance.

The final section provides an overview of some commercial data dictionary systems. An annotated list of selection criteria is provided to help potential users select an appropriate package. Some of the major characteristics of a selection of the available products are then described. The section concludes with a detailed case study of the UCC TEN Data Dictionary Manager.

This book provides a concise introduction to data dictionary systems and how they are used.

Philip Barker

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Incomplete treatment of Pascal

Programming Microcomputers with Poseal. M. D. Beer, Granada Publishing.

THE flood of books on Pascal has recently become a Niagara. This text is one of the latest additions. To be successful in competition with established texts, new ones must offer some particular new tuition method or useful exposition of a comparatively neglected aspect of Pascal programming.

The market niche this text aims to occupy is not empty – which means that the text is in competition with a number of books already catering for microcomputer programmers, especially UCDS system users.

One of the first problems with this text is that although it professes to be aimed at the microcomputer user, it only refers to the UCSD implementation and this mainly in appendices. In most respects the content is typical of a conventional exposition of Pascal.

Secondly, the treatment of the language is incomplete. There is no discussion of pointers for example. In a book aimed at the microcomputer user this is a serious error. Thirdly, there are too few examples with answers given. Fourthly, although the discussion is generally accurate it does not go far enough especially in explaining the pitfalls of using some constructs.

On a more positive note, the book does include a sensible discussion of some basic ideas of program design and structured programming. A particularly useful chapter deals with small controller-type microcomputer applications.

John Cookson

Compiler construction

Pascal Implementation – The P4 Compiler. S. Pemberton and M. C. Daniels. Ellis Horwood.

THIS book is concerned with compiler construction but with a different emphasis than other texts in that it is devoted to a case study of an actual system – the Pascal-P compiler. It is in two volumes, the first is effectively a commentary on the second which is the full listing (in Pascal) of the compiler and its associated assembler/interpreter. This separation makes it easy to refer to the relevant portions of the listing while reading the main text.

The main volume starts with an all too brief overview of compiling and then, in Part 2 considers the compiler. The areas examined are input and lexical analysis; syntax and semantic analyses and code generation. The corresponding components of the listing are identified and commented upon in some detail and unusual features, removal of inefficiencies and other possible improvements are discussed in the notes.

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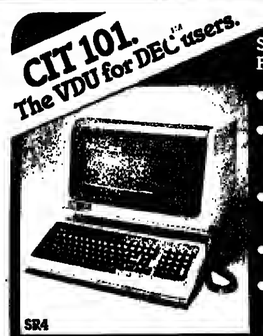

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Northamptonshire Libraries serve a population of 536,000 through 35 libraries and seven mobile libraries.

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Further details of the library service and its geographical make-up can be obtained by phoning Northampton (0604) 34833, extension 5283.

Those persons interested in applying for permission to tender for the contract should write to the address given below by Friday, November 6, 1982.

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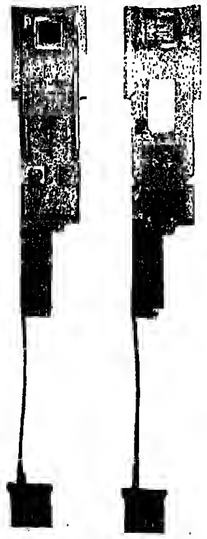

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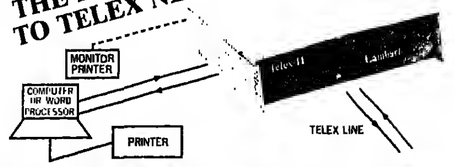

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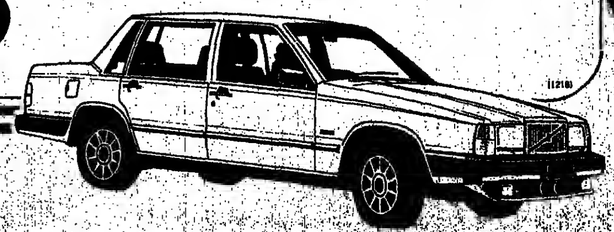

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Excellent career prospects exist within our client's U.K. subsidiary. They market a wide range of distributed data processing systems to commercial/financial markets.

Recruitment of an additional ten professional Account Managers/Directors is now underway and we welcome applications from those identifying with the following background.

They require applicants aged approximately 30-45, to have a minimum of five years' new business sales experience with a manufacturer of mini/mainframe equipment, possibly with a communications content. The market area should have been commercial and/or financial.

A successful sales track record is essential and we are looking for executives who can justify the salary commitment our clients are prepared to make.

Telephone BOB BOWER in the strictest confidence for further information. Ref: CW1410/3

Hutton
SPECIALIST RECRUITMENT CONSULTANTS

Young Programmers

Career Opportunities in

Management Consultancy

c. £11,000

London Based
Worldwide travel

First-class training
Excellent prospects

One of the World's top management consultancies seeks **Junior Consultants** to join high-powered project teams working on assignments throughout the Government, Industrial, Commercial and Financial Sectors.

You will be involved in:-

★ **The design, development and implementation of complex systems;**
★ **Computer policy planning, equipment selection and installation;**
★ **Feasibility studies and computer efficiency reviews;**
★ **DP organization studies and procedures development.**

Ideally you will possess a sound academic background (preferably degree level) and will have gained 2-4 years' experience of Commercial Programming on Mainframes or Mini Computers. Graduates with less experience will be considered for trainee positions. Strength of personality and communicative ability will be important factors.

Training the first order – in addition to the Companies own in depth training in Business and Management methods, considerable use is made of external courses in advanced computer techniques.

Prospects are excellent – successful candidates will be expected to progress rapidly into senior DP consultancy positions, with opportunities to diversify into other fields of business.

OTHER BENEFITS include frequent salary reviews on merit, generous travel and accommodation expenses, subsidised BUPA.

If you are seeking a career path that could take you right to the top, please telephone or write quoting Ref CW 2988.

Lloyd Chapman Associates

123, New Bond Street, London W1Y 0HR 01-499 7761

(1280)

INSEAD INSTITUT EUROPEEN D'ADMINISTRATION DES AFFAIRES-FONTAINEBLEAU

is searching for

MANAGER-COMPUTER CENTER

The ideal candidate will have an M.S. or B.S. in computer science or the equivalent, a minimum of 3 to 5 years experience, a solide knowledge of structured analysis and programming techniques, and some project management experience. Fluent English, knowledge of French is desirable.

The computer center supports the research, teaching, and administrative functions. It is equipped with two Decsystem 20's. The manager is responsible for all aspects of the computer center including staffing (12) project management, budgeting, planning, system configuration, and system accounting.

Applicants are requested to send C.V. or resume to :

CENTRE INFORMATIQUE INSEAD
Boulevard de Constance – 77305 FONTAINEBLEAU

DEVELOPMENT MANAGER

&

SYSTEMS ANALYSTS

The Diesel Division of Rolls-Royce Motors Ltd., a Vickers Company, occupies an important position as a leading manufacturer of high-speed diesel engines used in automotive, marine and industrial applications throughout the world.

Currently our DP installation has an IBM 4331, 1 megabyte system, shortly to be upgraded to 4 megabytes, operating under DOS/VSE with CICS and DL/I just installed. A new IBM 4341 mainframe is planned for next year.

A major project involving IBM COPICS application software is imminent and an exciting opportunity now exists for DP professionals to join an expanding team dedicated to the successful installation of manufacturing systems across the company.

Development Manager

With extensive experience appropriate to our installation who can demonstrate a positive and successful career path within an engineering or production environment.

Team management, liaison with software suppliers and user departments and budgetary control are all important aspects of the appointment.

Systems Analysts

With at least 4 years' formal analysis and COBOL experience preferably with COPICS applications in a manufacturing or production environment.

Both of these appointments offer the successful male or female candidates challenging opportunities in a busy developing department with genuine promotional opportunities.

The employment packages are excellent including competitive salary, contributory pension and health schemes and generous relocation assistance to this most attractive part of the country.

Please write now with details of age, qualifications and salary to:
Mike Owen, Personnel Manager,
Rolls-Royce Motors Ltd.,
Diesel Division,
Whitchurch Road, Shrewsbury.

ROLLS ROYCE
A Vickers Company

Analysis and Programmers,
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A CAREER, NOT A CONTRACT.

At Informatics, a New York Stock Exchange listed company, we offer our employees a career not just a contract. After twelve to twenty-four months in the USA, we offer generous return allowances and guaranteed positions in Europe working out of our London or Dublin offices.

If you have a minimum of two years paid computing experience, we would like to know about you.

IBM experience is *NOT* a requirement for these positions but we do *guarantee* both IBM training and IBM projects to all who join us. Our interview schedule is as follows:

London
Africa House
64-78 Kingswey
Wednesday
November 3, 1982
and Friday
November 5, 1982

Dublin
New Jurys Hotel
Thursday
November 4, 1982

We offer salaries of up to $40,000 per annum with generous relocation allowances for you and your family. In addition, we have generous company subsidized life, health and dental insurance plans for you and your family. To arrange for an expense paid interview in one of the cities listed above, please rush your resume or call Ms. Angela Nanni at (01) 405-8546.

Informatics Inc Africa House, 64-78 Kingsway, London WC2B 6AL 01-405 8546

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL
(University of London)
Denmark Hill
London SE5 8RX

PROGRAMMER
Computer Unit

To join senior programmer and operator responsible for provision of help and advice to research staff and students using statistical packages or writing their own programs, usually in Fortran. Also help with the day-to-day running of the remote job-entry terminal (Dec PDP 11/23 supporting eight terminals running under UNIX) linking the School with all major University of London computing centres. Assistance in running computer courses for undergraduate students and developing program libraries will also be required. Good knowledge of Fortran expected and experience in statistics and UNIX an advantage. Opportunity to gain wide experience in research computing; suitable post for graduate interested in computing career.

Salary in range £4567-£5542 plus £1030 London Weighting Allowance.

Further particulars from Valerie Goodyear, Personnel Administrator, applications naming two referees should be sent to the Secretary of the Medical School at the above address as soon as possible.

(1231)

UNIVERSITY OF BATH

RESEARCH ON EXPERT SYSTEMS

Applications are invited for the post of RESEARCH OFFICER based in the School of Management. The project is concerned with the design and application of knowledge based systems.

Candidates should have a higher degree in Computer Science or a good honours degree and relevant experience. Familiarity with an A1 language, preferably PROLOG, and UNIX would be an advantage.

Starting salary up to £7,226 according to qualifications and experience. The post is tenable for around 18 months initially.

Application forms and further details from the Personnel Officer, University of Bath, BATH, BA2 7AY, quoting ref. no: 82/113.

Closing date: 28th October 1982.

(226)

STILL SEARCHING FOR THAT ELUSIVE SOFTWARE PACKAGE?

Are your looking for a really worthwhile outlet for your software skills and experience? Somewhere that can offer you both the interest and challenge of working on a wide variety of high technology systems, and a first class salary, attractive benefits and excellent career development prospects.

Look no further, it's here at Marconi Radar in Chelmsford.

Within our Software Centre, one of the largest of its kind in Europe, we're involved in a wide range of highly challenging projects involving the development of sophisticated packages for real-time and on-line data handling and display systems for the Company's range of advanced radar equipment, including the new Martello 3-D radar which is currently being delivered to the RAF.

We are now looking for additional men and women with a degree level education and broad software experience including mini/micro computers, and real-time systems design, to join our teams, particularly:

Designers
Engineers
Programmers

As a member of our software team you'll be playing a major role in the development of complex systems with varied applications. Like to hear more? Come along to the

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LIVERPOOL STREET, LONDON, EC2
Friday 15th October, 12 noon – 8pm

SAXON MOTOR INN
SOUTHERN WAY, HARLOW, ESSEX
Friday 15th October, 12 noon – 8pm

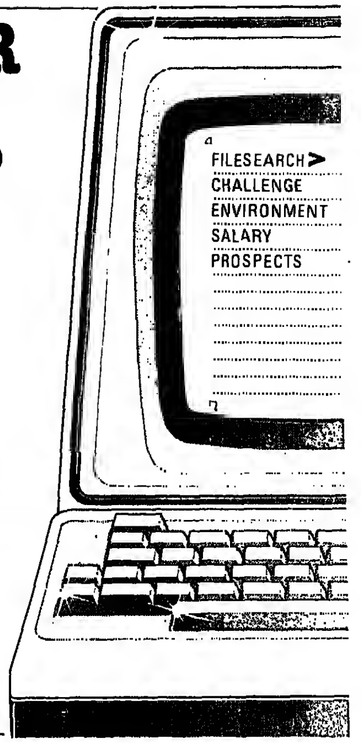
GEORGE HOTEL
HIGH STREET, CRAWLEY, SURREY
Monday 18th October, 12 noon – 8pm

LADBROKE SEVEN HILLS HOTEL
SEVEN HILLS ROAD SOUTH, COBHAM, SUSSEX
Tuesday 19th October, 12 noon – 8pm

HOTEL COMMODORE
MILL LANE, LLANYRAFON, CWMBRAN, GWENT
Wednesday 20th October, 12 noon – 8pm

Marconi Radar Systems

If you are unable to call in and see us, write with details of your experience stating which position interests you to Mr. T. Jones, Personnel Department, Marconi Radar Systems Limited, Writtle Road, Chelmsford, Essex. Telephone: Chelmsford 67111. ext. 2610.



FARNBOROUGH COLLEGE OF TECHNOLOGY

LECTURER GRADE I IN COMPUTING

(2 POSTS)

Applicants should have good industrial/commercial experience and acceptable qualifications. Knowledge of COBOL and/or microcomputers would be an advantage.

Salary range £5368 to £9267 per annum.

Further particulars from: The Staffing Officer, Farnborough College of Technology, Boundary Road, Farnborough, Hants, GU14 6SB.

S.A.E. please

Closing date: October 29, 1982

(1280)

TRAINEE/JUNIOR PROGRAMMER

Keen, enthusiastic and desperate Tops graduate (averege merks 80%) seeks e position with e company offering prospects for a bright, hard working 20-year-old, trained in structured Cobol. 1 year's operating experience. Availeble for immediate employment. Any area considered.

For a copy of my CV and course report please phone Merk Gillham, 01-304 2020 or write, 2 Ruskin Avenue, Welling, Kent.

1278

ANALYST/ PROGRAMMER (DPM)

RPG II/IBM SYSTEM 34

c £9000 + car after qualifying period

Tangent Computer Services Ltd., a highly successful 'international software house, require a young, self-motivated and ambitious individual to be responsible for the development of internal systems and the day-to-day management of their in-house IBM computer.

The successful applicant will have a minimum of three years' RPGII/System 34 experience – a knowledge of COBOL would be an advantage.

In addition to an attractive negotiable salary, the usual company fringe benefits apply.

Please reply to: **Ken Say, Head of Group Resources Division, Tangent Computer Services Ltd., 102/108 South Street, Romford, Essex. Tel: Romford (0708) 750201.**

REGIONAL COMPUTER UNIT

SYSTEMS ANALYSTS

Scale 3 £7,554 P.A. – £9,277 P.A.
Scale 14 £9,490 P.A. – £10,923 P.A. } + Proficiency Allowance

Salary Award Pending

The Oxford Region has recently embarked on an ambitious programme of hospital computerisation. Experienced staff are urgently required to work on this project, or on one of the other applications for which this Region is responsible. Our systems cover such areas as Payroll Accounts, Stock Control, Hospital Administration, Labs., Community Health, Blood Transfusion, Ambulances etc.

If you would like the opportunity to work with other Health Care Professionals, and have a minimum of 3-4 years' experience, with at least 2 in systems analysis, please get in touch with us.

Ring Chris Harvey on Oxford 64681, extension 462 or contact:

The Recruitment Officer,
Oxford Regional Health Authority,
Old Road,
Headington,
Oxford OX3 7LF.
Extension 248/268.

1280

Oxford Regional Health Authority

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UP TO £14,000 IN UK MORE ABROAD

We specialise in real time, automation and industrial control systems. We are looking for staff experienced in these fields who enjoy a challenge, take pride in their work and wish to join a dynamic systems company.

If you are interested, please contact:

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Digital Applications International Ltd
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London, W1R 5RL
Tel: 01-734 5486

P Hewitt
Digital Applications International Ltd
Alpha House, Rowlandway
Wythenshawe, Manchester M22 5RG
Tel: 061-436 3122

(1237)

DAI

GERMANY · SWITZERLAND · BELGIUM · HOLLAND · UNITED KINGDOM

DALROTH *computer personnel*

Management Systems end Programming, the world leaders in Data Management/Dictionary driven software is undertaking a major worldwide merketing push, and with two new products being launched in 1982 and a further two in 1983 the Company are creating two new management positions. MSP have their Eastern Hemisphere R & D development unit London based and have twin mainframes operating DOS and OS, also e number of micros to assist in development.

Marketing Communications

Manager

London based £14-18K + benefits

MSP require a Maneger to heed-up the London-based Corporate Marketing Communicetions Department. A significant emount of liaison will be required with a counterpart based in the USA. A highly skilled, aggressive marketing professionel, with a solid IBM background to provide marketing meterials, guidelines and assistance for the international network of distributors serving 25 countries.

Responsibilities also include PR ectivities, liaison with en internetionel edvertising agency and major Europeen user group conference co-ordinations.

Essential experience is: good IBM software background, proven experience in the creation of marketing materiels; in PR end also exposure to technical publication production.

Programming

Manager

London based £15-18K + benefits

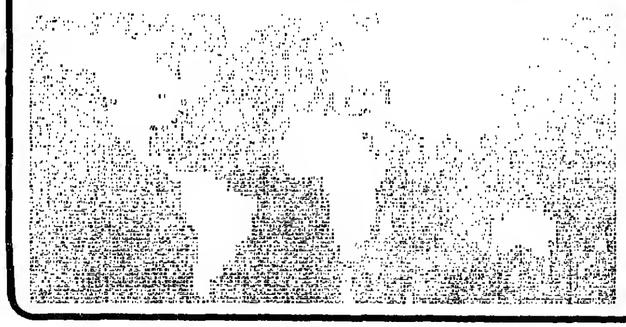
Very successful marketing and the planned new products create this exciting opportunity for a Programming Maneger to heed up the R & D Development Centres programming activities.

The successful products include DATAMANAGER, DESIGNMANAGER, PROJECTMANAGER, SOURCEMANAGER end TESTMANAGER with CONTROLMANAGER, TEXTMANAGER under development, end five further products planned in the two to five yeer time scele.

The successful applicant will have previous experience as a Chief Programmer or Programming Maneger and proven person menagement capability. A minimum of five years' IBM Assembler Programming experience is essentiel.

For further information please telephone Jenny Dalrymple-Hay, daytime 01-493 2947; evening (04946) 4579 or write quoting Ref: 9932.

DALROTH & PARTNERS LIMITED, 4 HALF MOON STREET, LONDON W1



MSP have offices in —

London	Zurich
Leicester	Helsinki
Hemburg	Stockholm
Munich	Madrid
Sydney	Tel Aviv
Boston	Johennesburg
Atlanta	Tokyo
New York	Kuala Lumpur
Chicago	Singapore
Seattle	Delles
Weshington DC	

msp

(1257)

DEPARTMENT OF ENGINEERING
Engineering Services Division

Engineering Analyst/ Programmer

Post Ref. E2114 — Grade AP4/5 Salary £9801-£7878

A vacancy exists in the Computer Section of the Department of Engineering based at County Hall, Barnsley, for an Analyst/Programmer on Engineering Applications. The work involves developing new programs and adapting existing ones for the engineering activities of the Department which includes highway design and maintenance, structural engineering, traffic, transportation and engineering management. The Section operates a variety of keyboard and batch terminals to the County's DUAL ICL 2966s and other computers and also runs a stand-alone graphics system. Analyst programmers are in regular contact with potential and existing users of their programs.

Applicants should be suitably experienced and qualified by an appropriate degree or H.N.D.

Please write or telephone for an application form, quoting the above post reference, to the Chief Executive (Personnel), South Yorkshire County Council, County Hall, Barnsley S70 2TN. Telephone Barnsley (0226) 88141, Ext. 266.

Closing date for applications will be October 29, 1982.

(1268)

South Yorkshire County Council
SETTING THE PACE

UNIVERSITY OF ESSEX
DEPARTMENT OF MATHEMATICS

SENIOR RESEARCH OFFICER

Applications are invited for a post of Senior Research Officer to work on a one-year SERC project. The successful applicant will participate in design and use of software for handling real-world clinical material, with the aim of constructing a prototype Expert System. Fluent Pascal and some experience with fuzzy relations would be advantageous. The salary will be within the first three points of the Range IA scale (£6375-£7228).

Applications quoting reference AG/145/CW including a curriculum vitae and the names and addresses of two referees, should reach the "Fuzzy Research Project", Department of Mathematics, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, from whom further details may be obtained, by 5th November, 1982.

(1232)

UNIVERSITY OF SOUTHAMPTON

SENIOR PROGRAMMER

Applications are invited for a post within the University's Computing Service. The successful applicant will join a team working on a variety of support activities either already with computer users or in the development of Computing Service facilities. He or she should have a sound knowledge of computing, microcomputers or computer communications in a technical or educational environment. Applicants should normally possess a degree or equivalent.

The appointment will be on the academically related scale in the range £5650-£11106 and will be for one year in the first instance. The starting salary will depend upon age and experience.

Applications (two copies) giving date of birth, full curriculum vitae and the names and addresses of two referees should be sent to Mr C. N. Sauld, Staffing Department, The University, Southampton SO9 5NH from who further particulars can be obtained. The closing date for applications is 30 October 1982. Please quote reference 2600/CS/CW.

(1252)

Ferranti Offshore Systems Ltd.

SENIOR SYSTEMS PROGRAMMER

Due to the continued increase in our oil related activities Ferranti Offshore Systems, a young progressive and enthusiastic company working within the Ferranti Group require n Senior Systems Programmer.

The position requires a person to head the company's existing software team; to assist in proposals for software contracts; generate software specifications from functional (and other) design specification and to supervise and generate software documentations packages as required by contracts in force.

Applicants, ideally should have a minimum of a degree in a computer subject, 3-4 years experience in system level programming in a real time environment and a good working knowledge of generating software specifications and their implications. In addition, the successful applicant will be conversant with, and be able to modify and enhance Assembler Language Code and high level codes (i.e. Coral 66) for Ferranti Argus 700 computers and will be able to cope with other codes and languages as may be required. A knowledge of Pascal/PLZ language code and/or Zilog Z80 and Z8000 systems would be an advantage although not essential.

The excellent salary and conditions will be negotiable, relative to experience, and will reflect the level of responsibility of this senior position. Further career potential is excellent. The successful applicant can expect assistance with relocation expenses where applicable.

Applications should be made in writing to the:
Personnel Department,
Ferranti Offshore Systems Limited,
Scott House,
475-485 Union Street,
Aberdeen AB1 2DB
Tel. (0224) 50282

(1270)

FERRANTI
Selling technology

SERVICE OPERATIONS MANAGER

Benson, Europe's largest manufacturer of computer-controlled drafting equipment are seeking an experienced manager to take operational control of the field service team.

This newly-created position, based at the Bristol head office, results from our sustained growth, and should appeal to a mature, technically able person, capable of motivating their team and maintaining the excellence of Benson's service record.

Attractive salary and benefits package.

Applications in writing, enclosing c.v., should be sent to

Clive M. Hughes, U.K. Service Manager,
Benson Electronics Ltd.,
Techno House, Redcliffe Way, Bristol BS1 6NH.

benson The Computer Drafting Professionals

(1228)

TOP JOBS

Let us write and produce superbly your standard interview-seeking CV. Free info Personel Curriculum Vitae Ltd, 272/278 Pentonville Rd, London N1. 01-278 4141.

(1284)

PROGRAMMER

required
1/2 years' experience with FORTRAN 77 or Mini Computer Systems, to work with small team in the development of Mapping and Geological Systems.
C.V. to:
Mr E. J. Slutterbuck
Scott Pickford Associates
256 High Street
Croydon
Surrey

(1271)

LINCOLNSHIRE GRANTHAM COLLEGE OF FURTHER EDUCATION

Department of Business Studies

LECTURER II IN COMPUTER AND DATA PROCESSING

This post will be available from January 1, 1983.

Salary scale: £6855-£11022 with possibility of increments for relevant experience.

Application forms and further details available from the Principal, Grantham College of Further Education, Grantham, Lincolnshire, to whom they should be returned as soon as possible.

(1269)

Marketing Executive

Salary + Guarantee to £27K + Commission + Executive Car (Probable O.T.E. c£35K)

NORTH WEST BASE

This is an outstanding opportunity for a young, ambitious sales professional to take full control of a well resourced marketing operation and develop it into a substantial business. The successful applicant will require:

★ a full awareness of current O.E.M. market developments
★ a relevant and successful track record
★ maturity and energy

in order to succeed in this demanding role and take advantage of the further opportunities for rapid personal development and high financial rewards.

Contact: **Paul Henry** on **061-833 0427** (Office) or 051-924 2868 (Evenings and Weekends).

In the beginning . . . .
our Client was an established American organisation known mainly for innovative, microprocessor based scientific instrumentation — a heritage comparable to some of today's computer industry giants.

then . . . .
they designed and launched a uniquely powerful microcomputer onto the U.S. commercial market. The venture is proving to be a success.

now . . . .
they must recruit the two key individuals who will mastermind their entry into the U.K. market. These appointments will challenge the most capable of professionals — and carry substantial financial and career incentives.

Systems Consultant (Pre-Sales Support)

Salary to £15K + Bonus + Executive Car

NORTH WEST BASE

This key position requires a Software Technician to work closely with the Marketing Executive, assuming full responsibility for all pre-sales support activities. The successful applicant's background will include:

★ Syetems programming experience
★ A knowledge of communications software
★ 6+ years within the computing industry

Emphasis will be placed on the personal skills required to succeed in a fast moving sales environment.

Contact: **Sheila Bradbury** on **061-833 0427** (Office) or 061-485 7798 (Evenings and Weekends before 9pm).

The successful applicants to both positions must be prepared to spend short periods in America for product training and will enjoy normal large company benefits including relocation expenses, where appropriate, BUPA and a generous mileage allowance.

Technical, Sales & Management Appointments

SCR

Specialist Computer Recruitment Ltd

SOUTH — James House, 40 James Street, London W1M 5RS. 01-935 0671/486 0481

MIDLANDS & INTERNATIONAL — 35-37 Great Charles Street, Queensway, Birmingham B3 3JY 021-236 3761

NORTH — International House, 84 Deansgate, Manchester M3 2ER 061-833 0427

BELGIUM — Avenue Louise 327, Boite 4, 1050 Bruxelles 010 322-640 7161/71

HOLLAND — Willemsparkweg 92, 1071 H.M. Amsterdam 010 3120-760947

The Open Evening. Tuesday, 19th October.

If you are wondering about the next step in your career, come and meet the men and women of a software team who have been given unrivalled advantages.

New Company

Marconi Underwater Systems Ltd was formed in April as part of the prestigious and successful GEC-Marconi Group. You will join a dynamic young company which has all the backup and security of an established organisation.

New Project

This year they won the contract to design and develop Britain's new heavyweight torpedo - SPEARFISH. You will be at the forefront of technology and will have the advantage of joining projects at the beginning and using advanced hardware including VAX11/780's, Intel 8086's, ARRAY PROCESSORS and colour graphics.

New Careers

Members of the team not only have an exciting technical role, they also have the opportunity to move into software management. The company promotes on ability rather than age. You will be surprised that the people you meet have attained their senior positions so early in their careers.

More Rewards

A progressive attitude towards salaries and career development leads to a salary ranging up to £16,000, and is currently complemented by twice yearly reviews, 5 weeks holidays, subsidized meals and the full GEC-Marconi benefits package. Relocation expenses to this N.W. London location are available where appropriate.

Scientific Software Engineers

If you have any experience of VAX, POP, MICRO PROCESSORS, ARRAY PROCESSORS, COLOUR GRAPHICS, RELATIONAL DATABASES, COMPILER CONSTRUCTION, REAL-TIME SOFTWARE OR MILITARY APPLICATIONS

Computer People London

COVERING THE WORLD

One of the world's largest insurance services companies and part of a top American group, our client is at the forefront of the international broking market providing comprehensive cover to Marine, Aviation and Industry. They are now on the threshold of a major phase in systems development designed to meet the information needs of a thriving, worldwide organisation.

To co-ordinate systems requirements there is a U.K. based Management Services company within the group, providing data processing and communications facilities. Utilising the latest IBM 4300/8100 technology they are currently undertaking a number of projects with the emphasis on Accounting and Risk Administration systems.

To drive this expansion a few key staff are required with the ability to make a dynamic contribution to the development programme.

Systems Analyst – To £12k

We are looking for a Systems Analyst, with a programming background and three to five years experience in data processing. You should have had involvement in broking systems and worked on business analysis and systems design in an IBM environment. You will be a member of a small team developing new applications, such as accounting, risk administration and word processing systems. Based in London this position offers an interesting future to the right candidate.

Programmers – To £11k

COBOL/CICS – Two years IBM DOS/VSE experience opens up some interesting opportunities to work on insurance and accounting systems. You should have a sound background in either Cobol or PL/I and one years involvement with CICS to take a development role on these integrated database systems. Based on the Surrey/Hants Border.

DPCX – A new system using 8100 DPCX/DOSF technology, combined with CICS and VSAM is currently being developed. To be involved you should have a practical knowledge of 8100 DPCX macro assembler gained over one year. Based on the Surrey/Hants Border.

Systems Programmer – £12k

This position requires a minimum of one years experience of Systems Programming in a DOS/VSE environment. The hardware consists of an IBM 4331 which will be upgraded to 4341 under VM, DOS/VSE early next year. IBM 8100's are linked to the mainframe using CICS/VS, ACF/VTAM, ACF/NCP and DPCX.

You will join a team of two, and play a leading role in installing and supporting VM and DOS/VSE. Additionally, you will take part in the continuing development of the SNA network. Based on the Surrey/Hants Border, you will be at the heart of technical advancement.

For a detailed profile of the company and further information on these opportunities, please contact Francesca Drinkwater or return the coupon below.

D.P. RECRUITMENT LTD
FREEPOST, LONDON W5 2BR
TELEPHONE: 01-567 5501
(24 HOUR ANSAPHONE)

Name
Address
Work Tel.
Home Tel.
Type of job

Do you want to help create an advanced database with the latest IBM hardware?

Geoff. This campaign you ran for BBI in June – How was the response?

AGL

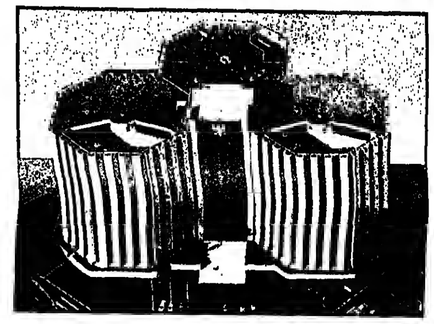
Very good indeed. 20 offers made and accepted. Phase II starts now and there are 10 more vacancies. I think we should re-run it.

GAR.

Consider:

- Varied, interesting development work embracing many different disciplines and applications. ☐
- Integration of a number of systems within a common, large-scale database under IMS DB/DC. ☐
- On-line COBOL program development in a carefully-managed operational environment. ☐
- Real career advancement in an expanding D.P. Centre, with prospects for international travel. ☐
- Excellent remuneration featuring high salaries, non-contributory pension, paid overtime, bonus, profit-sharing. ☐
- Generous relocation package including cheap mortgage, applying to both men and women, of course. ☐
- Superb location on a picturesque part of the South Coast near the New Forest and Hardy country. ☐

Consider your current position against the checklist above, and you'll be lucky to score 4 out of 7. You could do better.



BARCLAYS International

Barclays Bank International are recruiting high-calibre analysts programmers and operations analysts for their D. P. Centre – the hub of their 2000 offices worldwide – located at Poole, Dorset.

Systems Analysts, to £12k plus benefits with 3/4 years experience an appreciable amount of which has been gained in international banking/foreign exchange applications preferably in an IBM installation. A programming background would be useful.

Systems Programmers, to £13.5k plus benefits with at least two years experience within an MVS environment using IMS and VTAM. Alternatively, with at least two years experience on Tandem hardware using Assembler-type language in a support role.

Operations Support at BBI is an impressive department attracting talented technicians who enjoy the stimulus of 'state of the art' technology. It is envisaged that successful applicants would have gained experience at IBM 370/168 – 3081 installations within a Real-Time environment.

IMS Specialist, c£11k + benefits. As a key member of the IMS Support Team you will possess a minimum of 4 years DP experience including 2 years covering the implementation support for IMS applications with experience in MVS, JCL IMS batch and BMP JCL, BMP recovery and restart procedures, preferably with an understanding of DBRC and IMS batch utilities.

Acceptance Test Analysts, c£9k + benefits. Acceptance Test Analysts are required to join the team which ensures that work submitted is controlled and tested so as to protect the live system environment. At least 2 years experience from a similar operations support background is required.

Decide:

Join Barclays Bank International. For more details of these superb career opportunities, proceed as follows.
Analysts & Programmers: phone Geoffrey A. Richardson on 01-680 4013 (9.30 to 1800) or 01-882 8426. (19.30 onwards and weekends).
Operations Analysts: phone Kay Stebbings on 01-638 8411 (24 hours).
Alternatively, mail the coupon below. Initial interviews can be arranged in London, Birmingham, Manchester or Poole.

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Computer People South

Get a bi-lingual contract signed, is Sarah Hardcastle's advice for those who plan to take a job in the Middle East

Arab firms offer up to three times UK pay to lure professionals

"The biggest mistake Europeans make is not accepting the Arab environment."

ALL those stories about working in the Middle East are true.

The one about the programmer housed in a desert caravan unable to get into town is as valid as the one about the DPM getting £30K a year, free accommodation in a luxury villa, a car, frequent first class travel home and his children's school fees paid.

The moral of working in the Middle East is that you have to be careful. Everything from a valid bi-lingual contract to an appreciation of how you'll adjust to the Arab culture must be sorted out before you board the plane to Riyadh or Dubai.

Leave it till you get there and you could be sorry.

For computer people, there are tremendous opportunities in the Middle East. The oil companies, which have been using computers for years, are continually developing new applications and are now starting to move into office automation. Smaller businesses, such as the many trading companies, are beginning to computerise for the first time, many of them making the quantum leap from manual procedure to sophisticated online systems. In addition, huge programmes in telecommunications, education, medicine, and construction are under way in the Gulf States and Saudi Arabia, all of them employing computers and systems of some kind.

With few skilled computer personnel of their own to call upon, the Arab countries are only too keen to employ experienced people from Europe and the UK in particular to run their installations.

To attract computer professionals, Middle East companies offer salaries at least double, sometime triple those in the UK. Flights home and free accommodation are included in the average contract.

Personal tax is minimal and those staying out of the UK for a year don't have to pay any here either.

At the end of a typical two-year contract you could return home with sufficient saved to fulfil at least one ambition. Apart from your bank balance, your career will have benefited by working with some of the latest systems now being installed in the Middle East.

Balancing the obvious financial advantages are the cultural, political and religious differences from the European way of life.

Not the least of these is the political volatility of the region. Though stable compared with their near neighbours, Saudi Arabia and the Gulf States are too close to one of the world's main trouble spots for many Europeans to feel comfortable. The revolution in Iran, the revival of Islamic fundamentalism and the two current wars have sent ripples of unease throughout the region; Saudi Arabia's response has been metaphorically to close its frontiers, making life more restrictive for foreign nationals.

On a personal level, the restrictions of the Arab culture are the expatriate's hardest cross to bear. In Saudi Arabia, ironically the largest market for computer jobs, they are more strongly enforced than in the Gulf States.

In Saudi you cannot drink, though you can in Dubai, and life for women is cripplingly limited. Assuming your wife could accompany you to Saudi, she would not be able to drive or go shopping unaccompanied or to work.

The position in the Gulf is infinitely freer, and European women often work, though few hold senior posts.

Mike Mead has been placing computer professionals in the Middle East for several years and recently formed his own recruitment consultancy, Imers, based in Chelmsford, Essex.

Mead believes the successful expatriate is the one who can adjust to the Arab way of life. "The biggest mistake Europeans make is in not accepting the Arab environment and the benefits that come from living in a different country," he says.

Those who do adjust tend to stay according to Mead. "Most people are attracted by the money but I have found that many I've sent out on a one-year contract have renewed and are now in their third year. The reasons are largely financial.

Though Saudi Arabia is the least popular of all the Arab countries because of its restrictions, it offers five jobs to every one in the Gulf States of Oman, Qatar, Bahrain, Dubai and Kuwait which have a much freer lifestyle. On the other hand the professional with formal qualifications and five to seven years' experience can more or less pick and choose which country he wishes to go to. Apart from the man at the top of the tree, there is a great call for experienced people in systems and programming, senior operations staff and computer engineers. Operators and data entry staff tend to be recruited from the country's own nationals.

Experience on IBM and IBM-compatible equipment is called for mainly by Saudi Arabia. In the Gulf States, Hewlett-Packard, DEC, NCR, ICL, Wang and Data General are very much in evidence and so experience with these companies' systems is an advantage.

Salaries and contracts go hand-in-hand. Short-term contracts pay between £20,000 and £40,000 a year, but typically last a few months or the duration of a project. Long-term or permanent contracts, issued on a yearly basis, range from £14,000 to £30,000.

A contract with a good company should include air-conditioned and furnished accommodation in a house, flat or hotel and at least one return flight home a year. Holidays for permanent contracts are typically four to six weeks a year.

The majority of contracts, both short-term and permanent, are for "single status" which means that provision for wife and family are not included.

However, single-status, permanent contracts will often allow families in after the post has been held for one year. The alternative is to offer frequent, paid flights home.

"Contracts should be studied carefully, particularly all the things you will and will not receive," warns Mead.

Among the points to watch are the length of your working week. "Some contracts are based on daily payment over a seven-day week so you must ensure that you are not required to work more than the customary six days a week."

If you intend working for an Arab company and are negotiating with it directly, your contract will only be valid if it is bi-lingual. "If you receive an English-only contract in the UK, you may be asked to sign a further, possibly slightly different contract in Arabic when you arrive," warns Mead. "So insist that your contract is bi-lingual before you leave here."

Lastly, find out as much as you can about your employer and get as much in writing as you can before you go.

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Kuwait–soon to house one of the most advanced DP centres in Banking

Kuwait has developed into a leading financial centre in the Middle East creating an attractive environment for the many expatriates working there. Our client, a leading bank and a main contributor to the situation, is now expanding its DP capability by the opening of a prestige new data centre, based upon IBM 4300 processors, which will be one of the most advanced installations in the Middle East.

Systems development plans are extensive and cover most aspects of the banking functions. A number of key appointments are to be made and successful DP professionals are to be brought in from the UK. These are looked upon as permanent appointments by the bank, based upon 2 year renewable contracts.

Project Leader
Automated Office Machines are keen to talk to people in branches, and a person experienced in the implementation or similar on-line real time systems is required to lead the development team within the Retail Banking Group. Ref: W608-B

Team Leaders (2)
To control small teams in the development of systems for Credit and Bills Control and Foreign Exchange. Analyst/Programmer experience in a commercial banking environment is required. Ref: W607-B

Systems Analysts (3)
To work on individual systems to be developed for the following areas:- **Financial Accounting** using the **MSA** general ledger package; **Foreign Exchange**; and **Customer Information Systems**. Ref: W609-B

Ideally, in-depth systems development experience in the above applications with an early programming background is desirable but we will consider candidates with strong general banking/financial experience.

The environment is IBM DOS/VSE and VM with CICS moving to MVS in the longer term; although desirable, experience of IBM working is not essential.

Relevant application knowledge is particularly valuable for our clients.

Salaries will start in the range £15,000-£20,000 + TAX FREE with annual merit completion bonus paid. A high standard of fully equipped family accommodation together with a range of very attractive additional benefits are provided.

There is an unparalleled career development opportunity in a carefully advanced working environment and company remuneration levels promising [illegible]

Please write, giving brief details of your career to date and quoting the appropriate reference number, to the Vice [illegible]

Computer Personnel Tel: 01-242 9356

QATAR UNIVERSITY COMPUTER CENTRE DOHA - QATAR

The Computer Centre is newly established and developments will continue over the next two years in two phases. The first phase has already started. This includes the installation of a 1 MB Super-Mini (Wang VS80) and several terminals to service the teaching, research and administration areas. The second phase will involve the installation of a mainframe computer system to support about 150 terminals located in a new purpose-built Centre.

The Centre has vacancies for the following experienced staff:

1. **Analyst Programmer**
Basic Salary: Q.R. 5500-6250 per month
Applicants should:
– be Graduates in Computing or closely related subjects
– have 4 years' Programming experience in a Commercial or University Administration environment, and 1 year's experience in Systems Analysis
Responsibility includes: Analysis, Design and Implementation of Administrative Systems

2. **Programmers**
Basic Salary: Q.R. 4500-5250 per month
Applicants should:
– be Graduates with 2 years' experience in Programming
Job includes Programming support to staff and students as well as implementation of packages

3. **Computer Operator**
Basic Salary: Q.R. 3750-4500 per month
Applicants should:
– preferably be Graduates but other suitably qualified candidates can apply
One-year Computer Operation experience is required
Training will be provided on the new machine

4. **Data Entry Operator**
Basic Salary: Q.R. 3750-4500 per month
G.C.E. qualification with good knowledge of English and good English/Arabic typing
Data entry experience preferred
In addition to the tax-free salaries, other benefits include:
– Special Allowance (20% approximately); transportation allowance; free housing; free air fares; generous holidays; and free medical care.

Applications are invited from suitably qualified staff, Arab nationals or those with working experience of the Gulf area are preferred.
Please write, giving biographical details and your c.v. including education qualifications, experience, present salary and the names of two referees, to:

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DALROTH *computer personnel*

Our client, one of the leading Middle East software consultancy companies, has successfully tendered for several new contracts and will require over the next few months a number of additional staff.

New FM Projects

IBM and DEC based

Salaries £14-30,000 Tax Free

Two projects are 43XX based using DOS/VSE, CICS, DL/1 and COBOL with either DEC PDP 11 or VAX for the graphics elements. A number of internal company transfers will fill some vacancies. However, the Company will be looking for a **PROJECT MANAGER, SENIOR SYSTEMS ANALYSTS, ANALYST/PROGRAMMERS, SYSTEMS PROGRAMMERS, an OPERATIONS MANAGER and a number of support staff.**
A further contract based on 30XX running under MVS, using IMS and ADABAS has also been awarded. Similar staff to those indicated above will be required. Additional requirements will include a **DATA BASE ADMINISTRATOR and a SENIOR TRAINING CONSULTANT.** These positions based in Saudi Arabia, offer attractive Tax Free Salaries and excellent fringe benefits.

If you are interested in these or other positions in the Middle East please contact Jenny Dalrymple-Hay or Ian Murray West (day) 01-493 2947, or (evenings/weekends) respectively Beaconsfield (04946) 4579, Milton Keynes (0908) 563416, quoting ref. 9933.

DALROTH & PARTNERS LTD : 8 HALF MOON STREET : LONDON W1

BUICK COMPUTER SERVICES

SENIOR ANALYSTS(S) LONDON c£15,000 + car

Our client, a leading Software House is seeking a senior person to take a leading role in the pre-sales development of new commercial packages. The successful applicant will have several years' interactive systems design experience using mini computers. Ref: C9460
Two other vacancies exist for Systems Analysts with BASIC or RPG 2/3 experience, who are capable of handling a wide range of interactive software packages at the post-sales level, using various minis or IBM System/34 & System/38. An ideal opportunity to get into a rapidly expanding and lucrative market on a salary of £12,000+. Ref: C9481

SYSTEMS PROGRAMMERS £15,000 + benefits

This large manufacturing company situated in the London area requires a Systems Programmer with BASIC ASSEMBLER LANGUAGE & OS/VS1 or MVS experience, to take charge of a team of three. Excellent career prospects in a progressive environment. A number of other vacancies also exist in London and Home Counties for Systems Programmers with BAL, COBOL, or PL1, covering the spectrum of IBM systems software. Many of the fringe benefits are substantial. For further details, please phone quoting: Ref: A9492

RPG 2/3 PROGRAMMERS to CONSULTANT level to £15,000

A number of our clients situated in London/Home Counties and South East England are seeking Programmers and Analysts with two-three years' RPG 2 and/or RPG 3 experience, preferably on System/34 and/or System/38 equipment, capable of working on their own initiative. Applications include the specification, design and implementation of a wide variety of commercial online systems. Excellent prospects where your skills are put to effective use. Some of the benefits include subsidised mortgage scheme and profit share. Ref: A9505

PROGRAMMERS to PROJECT LEADER level to £14,000 + benefits

Fourteen of our clients situated in Middlesex, London and Kent are seeking development staff at all levels. Applicants will have at least two years' programming experience in COBOL, or PL1 together with a track record in development of insurance, Banking or other commercial applications. A knowledge of CICS would be an added advantage. Benefits range from bonus, profit sharing to mortgage facility, relocation, etc. Ref: C9457

SYSTEMS ANALYST CITY £14,000 + mortgage

A leading International Bank is seeking a Systems Analyst with at least two years' experience. The successful applicant will have at least one project to credit, from design to full implementation. COBOL experience is essential. Benefits offered include a MORTGAGE and interest-free loans together with other usual Bank benefits. Ref: B9511

SENIOR ANALYST/PROGRAMMER HERTS c£14,000

This large company is seeking a Senior Analyst/Programmer with at least three years' COBOL, CICS & DL1 together with two years' commercial systems design experience. Opportunity to progress in this rapidly expanding business. Ref: C9436
If you wish to look further afield, i.e. Saudi Arabia, to increase your earnings potential to £22,000, please phone for further details quoting: Ref: C9452

PROJECT LEADER C. LONDON to £14,000

The ideal applicant will help support VME/B IDMSX TP, GEORGE 2/3 under CME, therefore experience of these will be an advantage. An excellent package is being offered, which includes managerial training, good annual leave allowance, career prospects, etc. For further details ring quoting: Ref: B9514

PROGRAMMERS SWITZERLAND £Excellent

Our client requires either FORTRAN/ASSEMBLER or CORAL/ASSEMBLER Programmers with two years+ experience to work in Switzerland. Applicants should have a degree in Engineering and preferably speak German. Knowledge of Real-Time Process Control an advantage. Ref: A9318

PROJECT LEADER MIDDX. £13,000 + car

Our client is seeking a Senior Analyst, capable of leading new projects from feasibility through to implementation. A financial systems background together with user liaison and supervisory skills are essential for this position. Excellent fringe benefits include provision of a company car. Ref: A9400

SENIOR SYSTEMS ANALYST LONDON £13,000 + Bank perks

This leading Merchant Bank needs someone with at least two years' systems design together with a programming background in COBOL and/or NEAT 3. The successful applicant will have taken a major system from feasibility to implementation. Long term security is offered together with excellent salary and benefits including mortgage, interest-free loans, etc. Ref: B9522

SYSTEMS DESIGNER C. LONDON £13,000 + Mortgage

Our clients, a leading financial organisation, are seeking someone with a minimum of three years' systems design experience, together with a working knowledge of IMS in an MVS/JES2 environment. An excellent package of benefits includes mortgage, profit shares, and N.C. Pension. Ref: B9508

PROGRAMMING TEAM LEADER MIDDX. c£13,000

This large organisation is seeking someone with at least four years' PL1 experience who is capable of taking charge of a small team of Programmers. The successful candidate will probably already have responsibility for supervising junior staff, ensuring deadlines are met and standards maintained. Ref: A9347

SENIOR ANALYST BUCKS. c£13,000

A Senior Analyst with Financial experience is required to act as a Team Leader for this major IBM site in Buckinghamshire, preferably with an IBM COBOL programming background, the successful applicant must display good administrative and communicative skills. Ref: A9462

PL1 and COBOL PROGRAMMERS to £13,000 + benefits

A number of our clients situated in London and Home Counties, need Programmers with a minimum of two years' PL1 or COBOL experience for the development of realtime systems using CICS and DL1. A knowledge of CICS would be an advantage. Benefits include Bonus Schemes, cheap mortgage and insurance facilities. Ref: C9364

SYSTEMS ANALYST SUSSEX c£12,000 + superb benefits

This large international company is seeking an Analyst with at least two years' sound commercial systems experience to take an important role in the development of their applications using IMS. Excellent career prospects and superb fringe benefits are afforded by this company. For further details ring quoting: Ref: A9487

DATA COMMUNICATIONS CONTROLLER £12,000 + benefits

This major oil company requires an experienced Data Communications Controller at their London site, with a wide knowledge of IBM hardware/software including TP networking, to join their expanding team. Excellent fringe benefits include share purchase scheme, N.C. Pension, etc. (This vacancy is duplicated under "OPERATIONS".) Ref: A9369

PROGRAMMING TEAM LEADER £12,000 + bonus

An international leisure company situated in London is seeking someone with at least three years' IBM COBOL experience and a working knowledge of CICS, to lead a small team of Programmers. An ideal opportunity to take on more responsibility and a career challenge. Ref: C9407

O.P. CONSULTANTS HERTS. £12,000

Our client, a major manufacturing and distribution company within the UK, is seeking two O.P. Consultants to investigate and advise on its various commercial application areas and O.P. procedures within the Group. The successful candidates will have good communicative skills and will probably now be Senior Analysts with a sound knowledge of IBM hardware/software, and/or procedures and standards within a CICS/DL1 environment. Support Analysts and Programmers are also needed for this site. Relocation expenses are negotiated. Ref: A9320

PROJECT LEADER BERKS. £12,000

Our client, an international manufacturing organisation, requires a Senior Analyst with Production and/or Financial systems to head up a Project Team, in an ICL 2900 environment. Excellent prospects. Ref: A9468

ANALYSTS & PROGRAMMERS BUCKS. to £12,000 + Mortgage

This major company is entering an expansion phase and currently requires additional D.P. staff. ANALYSTS with a minimum of 18 months' experience, preferably with a COBOL background. PROGRAMMERS with a minimum of 18 months' ICL COBOL experience preferably gained in development of realtime systems. Excellent fringe benefits include CHEAP MORTGAGE and RELOCATION. Ref: A9499

SYSTEMS DESIGNER LONDON £11,500 + bonus

This financial organisation is seeking a technically competent designer, who can take a system specification and convert it to the level of file design, program specifications, etc. A knowledge of PL1, CICS and database is also required for this important position. Ref: C9363

PROGRAMMERS to PROJECT LEADER level to £11,000

This company, situated in Hampshire, is developing its systems around TANDEM equipment and is currently seeking all levels of staff: Programmers with two years' COBOL, to Analysts with a COBOL background and leadership skills, preferably in a TANDEM environment. Experience of PATHWAY would be an advantage. Ref: C9477

PROGRAMMER (ANALYSTS) £10,500 + Profit share

Our client based in London, is seeking two Programmers with at least two years' COBOL experience (preferably IBM), to work on the development of online/database financial applications. These positions would ideally suit those wishing to put their Applications knowledge into practical use at the design level. Excellent prospects and remuneration package. Ref: C9393

COBOL PROGRAMMERS LONDON → BUCKS c£11,000

The ideal people sought should have a minimum of two years' COBOL preferably on-line and particularly in a financial environment. Many attractive monetary benefits apply including MORTGAGE, Free BUPA, etc. The site will be relocating to Buckinghamshire in the spring of 1983. Ref: B9513

BASIC+ PROGRAMMERS to £11,000 + benefits

We have a number of vacancies in London and Home Counties for Programmers, and Programmer/Analysts with a minimum of 18 months' BASIC + AIMS or BASIC + 2 experience, with the opportunity of working on a wide variety of commercial and scientific systems. Excellent opportunities for career progression, plus attractive fringe benefits include low interest mortgage facility, bonus schemes, and free BUPA. Ref: A9523

ANALYST/PROGRAMMERS MIDDX./ESSEX to £11,000

A number of our clients need Analyst/Programmers with a minimum of two years' COBOL programming experience, preferably using IBM equipment. Application areas are diverse, and excellent opportunities exist within these different types of organisations. Ref: A9488

RPG 2/3 PROGRAMMER SURREY to £11,000

Our client, a leading manufacturing company, wishes to recruit someone with RPG2 or RPG3 expertise to work on development of their realtime applications. Any level of experience will be given consideration, and where applicable, training will be given in RPG3. Many attractive benefits include discount scheme, subsidised restaurant and active sports and social club. Ref: B9512

Tel. 01-834 5923 (Daytime)
01-834 0061 (24-hours)

Or call evenings and weekends
REF. A: 01-690 5046
REF. B: 01-794 5937
REF. C: 01-942 1178

BCS

This above vacancies are only a token selection taken from our current files, and we are always pleased to hear from computer professionals wishing to further their career objectives.

BUICK COMPUTER SERVICES

FORTRAN SPECIALISTS LONDON/HOME COUNTIES to £11,000

Programmers are required to join existing development teams to work on a variety of applications including scientific research, engineering and commercial projects. Good fringe benefits Ref: C9350

ANALYST/PROGRAMMERS MIDOX./BERKS. c£10,500

Two large organisations need someone with an IBM CO/GDL programming background to assist in the development of their online applications, using 4300 equipment under OS/VS1. Systems software training will be given where necessary, and responsibility will be given for the supervision of junior staff. Ref: C9335

LECTURERS ESSEX c£10,500

Are you an experienced Lecturer, able to communicate effectively and prepare and present courses? If you also have a programming background, our client may be interested in discussing a challenging career in D.P. training within their organisation. Ref: A9375

ANALYST/PROGRAMMER C. LONDON £10,000 + travel

A major International Bank are seeking someone with approximately three years' experience as an Analyst/Programmer using COBOL, for their European Division. Priority will be given to those with Banking experience together with DEC/VMS and MACRO 11. Regular visits to the Bank's European Branches are part of the position's conditions, therefore the ability to liaise freely in N.C. Pension, etc. Ref: B9509

ICL COBOL PROGRAMMERS SUSSEX to £10,500

As a result of expansion plans, our client is seeking Programmers with a minimum of 18 months' ICL CO/GDL experience to take an important role in development of new systems. A knowledge of VME/B would be useful, but not essential. Ref: A9495

SENIOR PROGRAMMER CITY £10,000 + Bank perks

A leading Merchant Bank are seeking someone with a minimum of four years' NEAT 3 experience under VRX. A working knowledge of COBOL will be an added advantage. Database experience is preferred together with some supervisory experience. Long-term security is offered together with excellent salary and benefits including MORTGAGE, interest-free loans, etc. Ref: B9507

BAL/COBOL PROGRAMMERS ESSEX £10,000

This financial organisation is undergoing an expansion phase within OP and currently needs Programmers with COBOL and/or ASSEMBLER experience. A knowledge of DOS/VS and CICS is a plus, but CICS training will be given. Ref: A9496

SYSTEMS PROGRAMMER S. WALES to £10,000

Our client, a leading European manufacturing company, are seeking someone with a minimum of 18 months' DOS/VS(E) experience to assist, initially, in the conversion of IBM 370 to 4341 range. Large company benefits apply, together with full relocation where applicable. For further details, call us quoting: Ref: B9515

PROGRAMMER LONDON to £10,500

Our client is seeking a Programmer with at least two years' COBOL experience, preferably using BURROUGHS equipment. The successful applicant will be involved in the development of a number of commercial online Systems using the latest equipment and software. Ref: C9471

ICL (ANALYST) PROGRAMMERS HERTS./MIDDX. to £10,000

These famous manufacturing companies require Programmers and Analyst/Programmers to take a leading role in the development of a number of small to medium-sized commercial systems. Applicants must have about 18 months' CO/GDL, together with a working knowledge of ICL 1900 or 2900 systems software. Ref: A9528

OEC PROGRAMMER/SUPERVISOR MIDOX. to £10,000

An experienced OEC Programmer with at least two years' BASIC+ experience and a knowledge of RSTS who wants to make the step into administration is required by our client as an Operations Supervisor. Ref: A9341

SYSTEMS & APPLICATION PROGRAMMERS £9,500 + Bonus

This major financial organisation in Hampshire is undergoing a redevelopment phase with introduction of new hardware. As a consequence, the company is seeking an Applications Programmer with two years' COBOL (any mainframe), and a Systems Programmer with ASSEMBLER and OMS 1100, EXEC B or TIP. Excellent company benefits are afforded, including profit sharing, annual bonus and relocation, where applicable. Ref: C9365

SYSTEMS ANALYST KENT COAST c£9,300 + Benefits

This company needs an Analyst preferably with a COBOL programming background, to take an important role in the development of their financial applications. The company offers superb fringe benefits which include CHEAP MORTGAGE AND RELOCATION. Ref: A9472

COBOL PROGRAMMERS BERKS. £9,000

This expanding financial organisation needs Programmers with 18 months' COBOL experience, preferably using IBM equipment, and offers excellent career prospects and fringe benefits in an DS/VS1, VM environment. Ref: A9484

JUNIOR PROGRAMMERS c£8,500 + Profit share

Two of our clients, situated in Middlesex and London are seeking Programmers with 12-18 months' IBM COBOL experience to join their friendly young teams. Training in CICS will be given. Excellent benefits and opportunities. Ref: C9352

DEC PROGRAMMER ESSEX £8,500+

Basic+, Basic+two Programmer with RSTS experience required to join a small team in Essex. Excellent opportunity for the right person to become an integral part of the organisation; future career prospects brilliant. Ref: A9368

OPERATIONS

OPERATIONS MANAGER LONDON £13,000

Our client, a large manufacturing company, requires a computer professional with solid IBM MVS and management experience, aged 30-40 to take charge of their medium-sized Operations Department. An IBM 3083 will be installed in Autumn 1983. Ref: C9324

OPERATIONS MANAGER W. LONDON £12,500 + car

Our client is seeking an Operations Manager to take charge of their DOS/VSE, CICS installation. The ideal candidate will have at least seven years' IBM Operations experience with sound technical and managerial skills, capable of handling staff and management at all levels. Ref: C9402

DATA COMMUNICATIONS CONTROLLER £12,000 + benefits

This major oil company requires an experienced Data Communications Controller at their London site, with a wide knowledge of IBM hardware/software including TP networking, to join their expanding team. Excellent fringe benefits include share purchase scheme, N.C. Pension, etc. Ref: A9369

OPERATIONS ANALYSTS ESSEX £Market

Our client, based in rural Essex, requires experienced Operations Analysts with IBM and JCL experience to join their expanding Department. MVS preferred but not essential. Numerous fringe benefits. Ref: A9372

OPERATIONS SUPERVISOR KENT £9,000 + benefits

This well-known manufacturing company requires a technically competent Operator with DOS/VSE and POWER experience to take charge of a DAYS ONLY Operations team. An ideal opportunity to take on more responsibility, and also benefit from the remuneration package which includes N.C. Pension, subsidised restaurant and active sports and social club. Ref: A9491

SENIOR OPERATORS (Any mainframe) CITY £8,000 + Mortgage

We have been asked to assist in the recruitment of Senior Operators with at least four years' experience of mainframe computers. Where necessary, full training will be given on NCR VRX equipment. A three-shift system is in operation, and among the benefits offered include a MORTGAGE and Profit Share. Ref: B9510

NETWORK OPERATOR LONDON c£8,000 + Mortgage

This financial organisation requires a Network Operator to work in a two-shift environment using twin 4341s under DOS/VSE, CICS, with 200 terminals throughout UK and Europe. Benefits include MORTGAGE Subsidy, interest-free personal loans, N.C. Pension, BUPA, Sports and Social Club. Ref: B9370

MVS OPERATORS LONDON c£8,250 + Profit share

This large company needs Operators with a minimum of one to two years' MVS/JES2 experience. Good promotion prospects, and excellent benefits include profit share and low cost insurance facilities. Ref: C9391

OOS OPERATOR LONDON c£8,000 + benefits

This busy IBM 4300 installation is seeking an Operator with up to two years' OOS/VS(E) experience to work within a two-shift system. Fringe benefits include Life Assurance scheme, free banking, STL, Subsidised Restaurant, and active sports and social club. Ref: C9496

DOS OPERATORS SLOUGH c£8,000

A brand-new installation is shortly to go 'live' in January and our clients are seeking experienced DOS/VSE Operators ideally with CICS experience. A two-shift cycle will be in operation and there are many future openings available for a career-minded applicant. Ref: B9284

OOS OPERATORS CHESHIRE/HERTS./ESSEX to £8,000

Three IBM 4300 sites are seeking Operators with two years' OOS/VS(E), CICS experience to work in a two-shift (Essex), a three-shift (Cheshire/Herts.) environments. Excellent perks. Ref: C9358

BURROUGHS OPERATOR LONDON to £7,800 + benefits

This international company requires an Operator with at least 12 months' experience on B6700, B6800 or B6900 equipment to work on two-shift system. Prospects are good in this expanding site. Ref: C9528

PRODUCTION CONTROLLERS LONDON £7,500 + Bonus

Large financial organisation requires two Production Controllers with a working knowledge of JCL and Utilities; together with a basic understanding of VBT, VS2 or MVS. Good prospects are accompanied by excellent fringe benefits. Ref: C9362

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BCS

The above vacancies are only a token selection taken from our current files, and we are always pleased to hear from computer professionals wishing to further their career objectives. [1284]

DEC Prog/Analysts

Beds. to £10,000

The working environment, the company and its products all rate A.1. with this client. Experienced RSX11/Macro 11 programmers will enjoy working on applications and systems for computer controlled analysis and measuring instruments. There are opportunities in special systems and standard product development. A physics degree would be useful. Some international travel.

Support Programmer

Herts. c £9K + car

We are seeking an experienced programmer who has the interest in and the aptitude for sales support. The work involves visiting client premises to provide advice, assistance and internal training to users. You should have commercial applications experience and preferably a knowledge of DEC/DIBOL. The client has a range of equipment which could provide wide interest.

Sales Exec S/W Products

London to £20,000 O.Q.

A leading International Software company is expanding its sales team in the fast growing software market. We would like to hear from people with sales experience who have in-depth knowledge of database systems, or similar. Many prestigious reference accounts available. Extensive product training given. The client has a highly respectable name in the industry.

Project Manager

Herts/Beds. to £14,000

There is an opening in a large and expanding development centre for an experienced systems software development person to enhance his/her career. We would like to meet people with good operating system software design experience capable of managing several teams in this area. You will be technical with man management skills. Reloc. assistance given.

Recruitment Consultant

Amersham £10K-£16K+

If you are bright with a friendly, gregarious nature and have sound experience gained in the computer industry, you could be suited to a career in recruitment. You must have confidence in dealing with people at all levels and be interested in helping others. Age 25-35 years. Attractive earnings are totally related to effort.

S/W and H/W Designers

N.Herts. c. £9,000

Working in the area of real time systems in automation applications, our client has a long established reputation for quality products. Additional experience is sought for a number of teams. Programmers will work at systems software level in Assembler plus high level language. Engineers will work on Motorola based interfaces for automation systems. Previous design experience required.

Applications Development

W. Herts. £8K-£12K

A well established mini computer manufacturer is expanding its technical development teams within the applications development group. Candidates are expected to liaise with clients in systems design and implementation. Experience in CORAL 66, or other block structured languags is essential. Knowledge of M6800 micro range desirable. Positions exist for Programmers to Senior Designers.

Sales Execs. WP. and L.A N.

London and Wilts. O.Q. £15K + car

Experienced sales people are required for our clients' office systems products. The W.P. sales person will operate from Swindon developing new business. The L.A.N. sales person will cover OEMs and advanced end users. Good computing and systems background necessary. The company has a well established name and excellent reputation with a strong technical backup capability.

Team Leader Comms S/W

Beds. c £11,000

We would like to meet candidates with a background in communications software development preferably gained with a manufacturer or systems house. You should be familiar with the common bisync, protocols and ideally have knowledge of X.25 and L.A.N. You will be given people and project responsibility in a strong engineering development group. Reloc. assistance possible.

Technical Support S/W

W. Mass. £12K-14K + car

Take this opportunity to join one of the most successful computer companies of our time. You will need several years technical software experience to include; real time, data communications and/ or database systems. Analysts with banking or financial systems experience would also be of interest. You cannot fail to be impressed by this client. Higher salary but no car for City office location.

Office Systems

Swindon £ Neg.

Our client is a manufacturer and supplier of sophisticated micro based office systems. They have the following vacancies:

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H/W Designers
Production Engineers
Sect. Leader Ass'bly
Development Coordinator
Q.C. Validation Supervisor
P.D.S. Engineer
Supervisor Goods Inwards
Test Methods Engineer.

Field Engineers

London area c £8K + car

When the work of a field engineer in the micro based systems of today is similar from company to company, why change jobs? Not all companies are the same. If you would like to be in a sound, attractive company which has excellent products, a first class reputation and believe in its people, this is your chance.

Sales Exec Eng S/W

London O.Q. £18K + car

Ideal candidates will be graduates from Chemical, Civil or Mechanical Engineering. Your task will be to sell a wide range of applications software to engineering users in your own discipline. Our client operates an international bureau giving clients access to massive computing power. Previous sales experience not essential but computing knowledge is.

Customer Support Progs

Herts. £8K-£12K + car

Our client is experiencing dramatic growth due to the attractive and versatile nature of its 16/32 bit mini product line. They have a long established customer base and are very securely backed. We are seeking experienced programmers with knowledge of distributed data processing, applications and computer communications to provide pre and post sales support.

S/W Dev Manager

N.H. Counties c £15K + car

Ideally, candidates will have experience in systems software development gained with a computer manufacturer, line management and user environment. He/she will join a close-knit team where new ideas are sincerely welcomed. Main areas of responsibility are already mapped out. You will need a positive attitude to service and will believe in quality development. Excellent benefits.

UNIX Programmer

Herts. to £11,000

If you are a systems software programmer with experience working on a UNIX system, this could be your chance to give your career a significant boost. Our client wishes to appoint a UNIX specialist to join their engineering software group with responsibility for the in-house UNIX systems. DEC PDP and VAX experience useful. The successful candidate will be responsible for maintaining the system and for adding new facilities.

Comms. S/W Design

Herts. to £12,000

Develop your career and your existing communications software skills by joining a company already firmly established in this high growth sector of the computer industry. We are seeking software people with experience in developing 3270 compatible systems and as much experience as possible in X.25 and L.A.N. products. Attractive new office premises. Excellent prospects.

Sales Exec S/W Services

S. M'sex. O.Q. £15K + car

Our client is a software house specialising in technical and scientific applications. They are seeking a sales person with a minimum of one years experience to join their team. The company has a reputation for high calibre staff who have above average experience in their field. Their business is in the mini (DEC) and micro applications area.

Software Specialists

Oxon to £14000

A major international systems house with an outstanding reputation in software design and development is seeking a range of people from programmers to project managers. We are interested in meeting people with a strong computer science background who wish to work on compilers, utilities and development aids. Relocation assistance will be considered.

Electronics Development

Cotswolds to £11,000

An electronics product development company with attractive modern premises in a pleasant Cotswold town requires engineers for new International applications projects.

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(1178)

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HR

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In London we use IBM 4331, WANG VS and DEC 11/44 equipment to meet our Data, Transaction and Information processing needs. We have started the process of integrating these components and the expansion of this programme has created a number of exciting career opportunities.

Overseas, we provide systems, support and guidance on a package basis. Based on the IBM System 34 our use of inhouse developed packages and the MIDAS system is expanding rapidly, creating further opportunities.

Grindlays is committed to the use of automation for improving both the range and quality of its customer services and in the management of the company itself. We are some way along that path but have many challenges ahead of us. Can you help meet those challenges?

Senior Systems Analysts
up to £12,000

You will have had several years' experience in the investigation, specification, testing and implementation of systems in the finance industry. A knowledge of the IBM 4331, IBM System 34 or WANG VS equipment and systems for Bank Accounting and Transaction Processing will be an advantage.

Analyst/Programmers
up to £11,000

The design and development of integrated data processing, text processing, personal computing and communications systems is a key element in our use of automation.

You will have had several years' analytical and programming experience in the COBOL, RPG or BASIC languages and be familiar with the WANG VS, WANG 2200, IBM System 34 or DEC 11/44 (RSTS/E) equipment.

Project Leaders
up to £14,500

Probably aged 25-40 you will have spent several years designing and implementing systems in the finance industry. Ideally you will have had some experience of FX/Money Market, Funds Transfer and Letters of Credit systems or the MIDAS software package. Equally important will be your team leadership, project control and communications skills.

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(1293)

SYSTEMS MANAGER PDP AND CAD SYSTEMS

The Global Engineering Group has offices in 15 locations worldwide serving the oil and gas industry as consultant engineers. Its London headquarters office is continuing its expansion from its new offices in Sutton, and consequently the company anticipates a major capital investment in computer systems to support its expansion.

We are looking for a Systems Manager, a new staff position, to join the company at a senior level to take over responsibility for all our present systems, and organise these into an efficient service for our technical department.

Immediately, we require the development of plans and strategy for the acquisition of CAD system. We will look to the Systems Manager to plan all stages of this acquisition, and establish the necessary organisation for its eventual implementation.

The applicant should be enthusiastic enough to get to grips with all our present EDP systems which includes word processors, minis and micros, with considerable bureaux utilisation, and to co-ordinate programming, operations and training, as well as sufficient expertise to lead the CAD development.

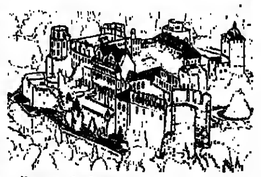
The right individual may expect an appropriately high remuneration and benefits. Occasional visits to our other offices to advise on system implementation may be required.

Please forward C.V. for the attention of:

K. S. Doherty (Marked Computer Vacancy)
Managing Director
GLOBAL ENGINEERING LTD.
3 Throwley Way, Sutton, Surrey

(1294)

GERMANY



The company — part of a highly successful multinational based in the USA - markets a range of advanced products in Germany and its success has led to the creation of this new post. The EDP Manager will lead the development of new systems, particularly in the fields of sales and marketing information, materials management as well as financial and accounting. Existing systems run on IBM System 34 hardware on-line. System development is carried out both at the European EDP centre and at Heidelberg where there is a small staff. The EDP Manager must establish good links with user management and the European EDP centre staff; he will manage the department and carry out systems and programming work. Having recently visited this client, we strongly recommend the position as a positive career step with a thriving international company in a beautiful location.

DP Manager

IBM S34; RPG II and COBOL; Multinational Group

Profile

The ideal candidate will be an innovator with a positive personality, who is flexible, diplomatic, persuasive and user orientated. With some supervisory experience, probably aged between 28-38, he will need technical skills in analysis, design and programming (IBM System 34, RPG, COBOL etc). He will speak fluent English (and possibly some German or be willing to learn) and will now probably be working as a project leader or consultant.

Salary and Benefits

An excellent salary will be offered including a good relocation package. The figure offered will allow a candidate earning up to: £12,500, or possibly more, in the UK to significantly improve his standard of living.

INTERVIEWS initial interviews will be held in the UK during the week beginning 25th October followed soon after by interviews in Heidelberg for shortlisted candidates. The start date is 3rd January 1983.

The time scale is tight so please ring, as soon as possible, Neville John or Alison Jary on (0270) 627208 (office) or (0270) 213118 (NJ) or (0270) 625436 (AJ) other times.
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ISM SYSTEM 38 RPG 2	ANALYST/PROGRAMMER
IBM SYSTEM 34 RPG 2 + BANKING EXPERIENCE	ANALYST/PROGRAMMER
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[1008]

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[1296]

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SYSTEMS & PROGRAMMING

TEAM LEADER
LONDON — IBM COBOL — To £14,000

Our client, an international company with impressive offices throughout Europe and the States, seeks to recruit a team leader/senior analyst programmer. We have been retained to engage an individual with a minimum of four years in data processing, preferably at least 3 years programming with some analysis experience. Candidates should have either CICS or Database, although training will be offered where necessary. The company retains IBM 4300 mainframes running under both DOS/VSE and MVS using Cobol, CICS and IMS. This vacancy offers an excellent opportunity for an analyst programmer who wishes to make a career move. A negotiable salary of up to £14,000 is offered which is dependent upon experience, with an early review. In addition they offer an impressive benefit package. S.6663

SYSTEMS ANALYST
LONDON — IBM 4341 — To £12,500

Our client, a market leader in their field seeks to recruit a systems analyst. They are based in the West End of London and use IBM 4341 under DOS/VSE linked to a network of DEC PDP minis in the North of England. Software includes VM/CMS for on-line program development, APL, Focus and Total Database. Current major developments are in the sales and marketing area where new databases with flexible reporting are being set up. Candidates should have a minimtun of 2 years' analysis exp. with a programming background preferably. Involvement from inception to impleinentation of at least one major project and user contact at all levels, is necessary, with IBM DOS/VSE VM/CMS and a non-procedinral language is desirable. Excellent company benefits include 5 weeks holidays, STLS, subsidised lunch and discount on company products. S.6694

BUSINESS ANALYST
KENT — IBM — To £12,000

This internationally famous company based in North Kent has a vacancy for a Business Analyst to complement their already well established D.P. installation team. The client has been using computing power power for many years and currently employ IBM 3031 machines. With this hardware they use MVS with CICS and DATABASE. Their current requirement is for a BUSINESS ANALYST with a minimum of 2 years experience which should have ideally covered financial systems. A preference will be shown to those applicants with IBM and Database experience but TRAINING OFFERED where necessary. In return, the company offers a generous salary and excellent benefits which include, BONUS, Non Contributory Pension Scheme and Relocation if required. S.6679

ANALYST/PROGRAMMER
CITY — BASIC/COBOL — £11,000

BANKING, Training, a variety of hardware and a mortgage subsidy are all included as part of this newly created vacancy. Our client, a major merchant bank based in the heart of the City, wish to add an experienced Analyst/Programmer to their department. A good programming background of at least 4 years commercial experience, some of which should have been on DEC or VAX equipment is a necessity. The successful candidate will show an aptitude and a readiness to move into system design. Previous exposure to either banking or financial systems would be a definite advantage. Applicants will be expected to work in a small team developing major new systems. Above average benefits which include a S.T. loan, BUPA, loan facilities and regular salary reviews are all offered with this pnsition. J.6574

ANALYST/PROGRAMMER
E. LONDON — COBOL — c.£10,000

A MORTGAGE SUBSIDY is only one of the many substantial benefits offered by this progressive international company. This Analyst/Programmer position is open to applicants who have experience as part of a team which has carried a small system from initial stages through to implementation. This opportunity offers a wide variety of development projects. The company retains a medium range Burroughs mainframe computer using Cobol and Database. Successful applicants must be proficient in Cobol with a knowledge of Database concepts. Burrougha experience is preferable, although training will be given. Candidates should have experience of responsibility and have been involved in specification writing. In return the company offers excellent surroundings in modern, spacious offices and many other benefits including L.V.'s, Pension and Life Assurance schemes, S.T. loan and sports club facilities. J.6476

ANALYSTS/PROGRAMMERS
LONDON — HONEYWELL — Up to £11,000

Two companies, both located in Central London have engaged our services to find Analysts and Programmers for their installations. A wide variety of very attractive allowances are offered with these positions. The people who will be put forward for consideration regarding those openings will be fully experienced in working with Honeywell hardware. Cobol is the main language, however, competence in Screenwrite would be an added advantage. Database experience will also be looked upon very favourably. Programmers will have 2-3 years commercial experience, people at the more senior level will be expected to show in excess of 3 years, solid data processing experience. MORTGAGE ASSISTANCE, free lunches, travelling allowance and regular bonus schemes will be available to successful candidates who are accepted for these positions. J.6625

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[126]

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Project Leader with 8 years experience of Real Time, Micro and ASSEMBLER. Northern Home Counties.

Software Engineers with 3 to 7 years experience of compilers and operating systems or communications. Northern Home Counties.

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[1288]

ab

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Salary will be commensurate with experience.

For further details please contact

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[1298]

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The successful candidate will be involved in the adaptation and construction of electronic and other equipment used in experiments on the human operator. Minimum qualification HNC or equivalent is essential. Special expertise in the field of instrumentation is helpful but not essential. Experience with computer programming and interfacing would be an advantage.

Salary on the Senior Technician scale (£5467 to £7092 p.a.) dependent on age and experience. For further information and informal discussion please write or telephone, giving full details and names of two referees to Mrs Sheila Hall at the above address. Closing date for applications: 31st October, 1982.

[1184]

IBM JSP
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[1296]

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SOFTWARE ENGINEERS — North Herts.
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A unique opportunity exists for a Data Processing Manager within an international sales organisation based in Maidstone, Kent.

The successful applicant should have at least 2 years' COBOL Programming experience together with an ability to design and write programmes. The task facing the successful applicant will be to computerise the whole company as quickly as possible, integrating in the most economical way Sales Analysis, Order Processing, Word Processing, Financial Modelling, General Accounts and Management Information.

At the present time the company is using a Philips P340 for order processing only and DECMATES for word processing and favours DEC equipment for expansion.

To be considered, submit your curriculum vitae, including current Salary and a telephone number on which you may be contacted.

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HERBERT

SALES BIT
Quality of Management — 26

Those boring records are a matter of self-survival

LAST week I discussed the three basic documents for achieving effective control of a sales territory: Client records, call plans and call reports.

Let's take a further look at client records. Imagine a client urgently needing help while the salesman is away sunning himself in the Mediterranean: the irate client phones the office and the salesman's secretary takes a message in his absence:

"We have just received a communications modem which doesn't appear to have the transmission characteristics we were expecting. This is urgent! Can you send someone round to sort out the problem please?"

The secretary gets the name of the company all right, but not the name of the caller. She then reports all of this to the sales manager. No problem, the salesman's client records are scanned, quickly revealing the company's address and telephone number, the name of the chief engineer, a note of the order taken on the last visit and department-head with the requirement for a high speed modem.

It is now a matter of checking with the despatch department to see what has been sent. Then, having asked for the appropriate department-head by name, the sales manager is quickly able to deal with the problem.

Yet, without established records, things could be quite different. The despatch documentation might reveal some information, but:

1. Who actually ordered the product?
2. What was promised?
3. In what circumstances was it ordered ie was it understood to be a trial?
4. Were the despatch details correct ie address, correct version of product, etc.
5. What are the names of the people involved and their responsibilities?
6. Was any support promised? If so, what?
7. For what purpose is the product being used?
8. Was a detailed proposal ever submitted that might provide some useful background?
9. Were any alternatives discussed?
10. Did the salesman actually take the order, or was it someone else?

Up-to-date client records could answer many, if not all, of these questions and help someone who has no prior knowledge of the situation to provide the salesman with the kind of support he would wish for in his absence. Without them a minor problem could easily be aggravated into a crisis.

Client records need to be up-to-date, accurate, flexible, accessible, and legible. Many salespeople use basic record cards containing name, address, telephone and contact details, merely noting the date of each call. This is fine for some products, and if information such as what happened, what was achieved, object of next visit and anticipated date can also be briefly contained for each trip, so much the better.

However, the higher the product value and thus the longer the selling cycle, the greater the need for detail. In such circumstances something more comprehensive is called for, and the kind of client records I prefer are file folders kept in alphabetical order by client.

Inside the front cover is all the basic data on the client, including turnover, number of employees, names and positions of all persons affecting buying decisions, best times to call, type of industry and markets, potential and existing products in use and competition, together with a simple one line per call record of each call made, on whom, about what, and when.

Into this file is then placed a copy of all detailed call reports, proposals, correspondence, Press cuttings, client's own product and corporate literature and any special notes.

Once this kind of system has been set up it is relatively simple to maintain, for most entries are but a few written words plus dropping into the file any relevant material that may transpire.

When preparing a call, all the salesman has to do is pick up the file and all he needs to know is there. For anyone picking up the threads there is all the detail of action and background to provide real continuity.

The whole process of maintaining effective client records is a question of both personal discipline and self-survival. It may be a struggle and a bore when you first start out, but very soon it will become so much second nature that you will wonder how on earth you managed to survive without them.

Come the next recession, may be you won't!

Alan Williams

COURSES

■ MSS has several courses lined up for November and December, to be held at its training centre in Worthing. November courses include Computers in Purchasing, Basic Fortran Programming, Database Concepts, and Cobol Programming for the Experienced Programmer. For December: Inventory Management and Control, Computer Appreciation for Management and Users, Basic Cobol Programming and Computer Appreciation for Beginners are on the agenda. Details from MSS Centre on (0903) 34755.

PUZZLE ANSWER

37081
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NEW MULTI-MINI PROJECT

Our Client is a leading commercial organisation, part of a large British group of companies, based in Central London. They are developing sophisticated new on-line applications to run on 4 loosely linked Honeywell DPS6 model 76 minis, with 15 256 mb disc drives, 4 printers, 4 tape drives and up to 100 TDS colour terminals. The system has been designed around a comprehensive underwriting, claims and accounts system. They now need the following additional computer professionals to further develop and install the systems.

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Project + Systems

PROGRAMMERS
Project + Systems

For the Senior Programmer positions candidates should have a sound DP background to include a good working knowledge of Honeywell DPS/LEVEL 6 using COBOL and/or SCREENWRITE.

The programming positions are open to candidates with 16 months'+ experience, some of which should have been gained on a Honeywell DPS/LEVEL 6 machine.

Specific knowledge of insurance or on-line applications will be advantageous.

The Client has now reached a critical stage in the project and is dedicated to recruit the right individuals to join a young and dynamic team.

To find out more about these excellent career opportunities please contact Mike Harmer.

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ANALYST PROGRAMMER

[illegible] HP 3000 [illegible]
[illegible]

Our Client, a well-known company in the retail business, wishes to recruit an experienced Analyst/Programmer. They are an established computer user and have a variety of applications running on their HP 3000 with major developments planned for the future.

Applicants will ideally have a sound DP background to include around 3 years' COBOL programming and an in-depth knowledge of Hewlett-Packard systems and software. The successful candidate would shortly assume the position of Assistant Computer Manager and should therefore be able to communicate at all levels. In return our Client offers an excellent starting salary and package, which includes a company car and N.C.P.S.

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SOFTWARE SALES

[illegible]

Our client is a well-established software house and is currently looking to recruit a salesman to promote complete systems to companies in the fashion trade.

The ideal candidate should not only have an interest in new computer technology but want to get involved in selling systems and managing pre- and post-sales support. A good knowledge of computer applications would be an advantage but specific fashion industry training will be given. Candidates will be self motivated, have the ability to communicate at all levels and compete in a dynamic fast-moving market place.

A good basic salary and attractive commission scheme would ensure that the successful applicant can expect to earn in excess of £15,000 per annum in their first year.

For more details please contact Dave Bowman.

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